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NATURAL RESOURCES CONSERVATION BOARD

Application No. 1701

SPRINGBANK OFF-STREAM RESERVOIR PROJECT

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P R O C E E D I N G S

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Volume 9

April 1, 2021

(Via videoconferencing)

1 Natural Resources Conservation Board Proceedings taken  
 2 virtually in Calgary and Edmonton, Alberta.

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4 Volume 9

5 April 1, 2021

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Daniel Heaney	Commission Member

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Luigi Cusano, Q.C.	For Calgary River Communities
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Sara Louden

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3 Richard Secord For SR1 Concerned Landowners  
Ifeoma Okoye Group

4

5 Bob Williams For Calalta Amusements Ltd.  
and Calalta Waterworks Ltd.

6

7 Scott Wagner For Scott Wagner

8 Lorelee Vespa CSR(A) CRR RPR Official Court Reporters  
Danielle Harmata, CSR(A)

9

10 (PROCEEDINGS COMMENCED AT 8:28 A.M.)

08:28

11 THE CHAIR: Well, welcome, everyone. Good  
12 morning.

13 I do have -- well, a little bit of a hiccup that  
14 I'd like to chat about once I -- just let me get my  
15 screen organized here, sorry.

16 So we got word that we may have had a virus  
17 downloaded from our website on one of the exhibits. I  
18 have been on the phone, as Mr. Kennedy and many others,  
19 with our service provider.

20 Late last night, in fact, I had MNP check the file  
21 that was in question and it checked clean. We have  
22 checked other files; we cannot find any remnants.

08:29

23 So it may be not the website that this virus came  
24 from in the end -- we don't know that for sure -- but  
25 we're trying to take precautions in case that is the

1 case, including our document managers who are  
2 downloading documents.

3 Mr. Secord, you provided, I believe, last night,  
4 an updated aid to cross and we're now getting that  
5 checked for a virus just in case because we don't --  
6 you know, if it's coming from somebody -- one of the  
7 folks -- the participants that's sending documents, we  
8 need to know that, and we don't know who it might be.

9 So we're checking documents. We will be trying to  
10 locate exhibits on our alternative drives that we know  
11 are clean. That might take some time and might slow  
12 our process in getting documents up this morning, so I  
13 would ask for some patience.

08:29

14 I think it's going to work, but it is an  
15 unexpected hiccup that we certainly didn't expect, and  
16 it's unwanted. And what a day on April 1st for  
17 something like this to happen. Hopefully, it's not  
18 some cruel joke by the virus gods.

19 So, with that, I'll start with any other  
20 preliminary matters that others may have? Are there  
21 any?

08:30

22 MR. KRUHLAK: Mr. Chairman, it's Ron Kruhlak.

23 THE CHAIR: Good morning.

24 MR. KRUHLAK: I don't know if it's necessarily a  
25 preliminary matter, but I just wanted to advise you

1           that we'd like to speak to a revision to an undertaking  
2           that was provided yesterday, and I think it's probably  
3           best we start that as the first item when we commence  
4           the hearing.

5           So if there's other more procedural or  
6           housekeeping items, perhaps we can dispense with those  
7           first.

8       THE CHAIR:                    Okay. Sure. That sounds like a  
9           good plan, Mr. Kruhlak.

10           Any other preliminary matters for this morning?  
11           Hearing none, Mr. Kruhlak, proceed, please.

08:31

12       MR. KRUHLAK:                Yes. There was a request  
13           yesterday for an expedited response to Undertaking 31  
14           to which we provided.

15           Mr. Wood would like to speak to a correction to  
16           the response to Undertaking 31, and it's also been the  
17           subject matter of an exchange of several aids to cross,  
18           which have been circulated either late last night or  
19           this morning.

20           So I've spoken to Mr. Secord, and I think the best  
21           approach is to simply have Mr. Wood speak to the  
22           correction, to have that on the record and clarified to  
23           the Board, and then I think if Mr. Secord would like to  
24           then address that issue with respect to any needed  
25           cross, Mr. Wood will be responding as needed.

08:31

M. WOOD

Examined by Mr. Kruhlak

1 MR. SECORD: Sounds good to me.

2 THE CHAIR: Thank you.

3

4 M. WOOD (For Alberta Transportation), previously sworn

5 MR. KRUHLAK EXAMINES THE WITNESS:

6 Q. Mr. Wood, are you prepared to speak to it at this time?

7 A. MR. WOOD: Yes, I am prepared.

8 Q. Please proceed.

9 A. MR. WOOD: Thank you, Mr. Chair. Thank you,  
10 Mr. Kruhlak.

08:32

11 I just appreciate the opportunity to provide a  
12 clarification and also thank you to Mr. Secord and  
13 Mr. Fennell for submitting the aid to cross.

14 It allowed me -- I spent quite a bit of time last  
15 night trying to figure out where this error could be  
16 and I think I've nailed it and would like to give a  
17 statement on the impacts of that data, and also request  
18 a retraction.

19 In Exhibit 327 of Stantec's review of  
20 Dr. Fennell's submission, which was Exhibit 261, I  
21 presented snowpack graphs with statements to the effect  
22 that the largest snowpacks do not necessarily produce  
23 the biggest floods.

08:33

24 While this statement maintains some validity, the  
25 snowpack data that I presented was for -- incorrectly

1 for mid-winter snowpacks, not the annual totals.

2 There was some discussion about which station was  
3 being used. The station was the Little Elbow Summit  
4 station; however, as I mentioned, I was incorrectly  
5 using mid-winter snowpacks.

6 What Mr. Fennell and Mr. Secord have presented in  
7 the aid to cross appears to be annual snowpacks, and  
8 that is the data that should be looked at for such an  
9 analysis.

10 As noted in the aid to cross, when you consider  
11 the annual snowpack, the percentiles change and there  
12 are more years when snowpack was larger and floods  
13 occurred.

14 So, as a result of my error, Alberta  
15 Transportation wishes to retract portions of the  
16 rebuttal to Dr. Fennell's intervener submission,  
17 specifically Figure 1 graph showing snow water  
18 equivalents for the five largest floods in Exhibit 327,  
19 page 48; Figure 2 graph showing floods from years when  
20 snowpack exceeded 75th percentile from that same  
21 incident; the text associated with those figures,  
22 specifically the paragraph above Figure 1 and below  
23 Figure 2 in Exhibit 327; as well as statements made by  
24 myself on March 29th, specifically page 1488 of the  
25 PDF, lines 13 to 25; page 1489 of the PDF, lines 21 to

08:33

08:34

M. WOOD

Examined by Mr. Kruhlak

1 23, as well as the workbook, the Excel workbook that  
2 was submitted in response to Undertaking No. 31.

3 And if I may add, the use of this incorrect data  
4 was limited to the response to Dr. Fennell and in the  
5 statements made, as described above. It was not used  
6 in any form during the evaluation or design of SR1.

7 Q. Thank you, Mr. Wood.

8 MR. KRUHLAK: Mr. Secord, I'll leave it with you  
9 if -- as Mr. Wood made reference to aids to cross of  
10 which there were a couple of versions that I haven't  
11 been able to keep track of them.

08:35

12 So if you wish to have any of those marked, we  
13 would have no objection.

14 MR. SECORD: Sure.

15 So, Ms. Friend, if it's agreeable, could you pull  
16 up the aid to cross that Mr. Wood would have reviewed  
17 yesterday evening. So that was the aid to cross that  
18 was sent to you at 7:23 -- or sent out at 7:23 p.m.  
19 yesterday.

20 MS. FRIEND: This is Laura speaking. I'm  
21 sorry, but we have to have that scanned before I'm  
22 allowed to put it on the screen.

08:36

23 THE CHAIR: Ms. Friend -- Mr. Secord, did you  
24 send that to Mr. Gessner (phonetic)?

25 MR. SECORD: To who? I beg your pardon?



M. WOOD

Examined by Mr. Kruh1ak

1 THE CHAIR: That's our MNP. I'm sorry.

2 Ms. Friend, has that file been sent to Mr. Gessner  
3 with MNP.

4 MS. FRIEND: Yes, it has, but I haven't had a  
5 response yet.

6 MR. SECORD: So maybe what we can do is do it  
7 this way.

8 If we could have the aid to cross that Mr. Wood  
9 looked at last night, which was the one sent out at  
10 7:23 p.m., if we could have that marked as the next  
11 exhibit, then we don't have -- I don't think we need to  
12 pull it up and we can save some time.

13 THE CHAIR: Thank you.

14 MR. SECORD: So that would be Exhibit Number?

15 MS. FRIEND: That's 396.

16 **EXHIBIT 396 - AID TO CROSS SCLG TO AT**  
17 **TOPIC 5 - ADDITIONS TO ATTACHMENT TO**  
18 **RESPONSE TO UNDERTAKING 31, EX 390**

19 MR. SECORD: And then if we could have the aid  
20 to cross that I sent out this morning -- I don't know,  
21 Mr. Wood, whether you've had a chance to look at that  
22 one yet, but I think it might have corrected a caption  
23 that was on Exhibit 396, and then there was some  
24 additional work that was done on that exhibit -- if we  
25 could have that one marked as the next exhibit, and

08:36

08:37

**M. WOOD****Cross-examined by Mr. Secord**

1           then I'm going to have a couple of questions for  
2           Mr. Wood, and then I think he can take that away and we  
3           can move on.

4                        So could that be Exhibit 397?

5           MS. FRIEND:                        Yes, that's correct.

6           MR. SECORD:                        Thank you.

7                        **EXHIBIT 397 - AID TO CROSS SCLG TO AT**  
8                        **TOPIC 5 - JF ADDITIONS TO ATTACHMENT TO**  
9                        **RESPONSE TO UNDERTAKING 31, EX 390**

10          **MR. SECORD CROSS-EXAMINES THE WITNESS:**

08:37

11          Q.    So, Mr. Wood, I don't know that you need to address  
12                this now, and perhaps this has been -- you know, been  
13                solved in some degree by what you've said this morning,  
14                but I have -- perhaps three questions for you to take  
15                away. If you want to respond now, obviously that's  
16                fine.

17                        So when we looked at Exhibit 390, which is the  
18                response to Undertaking No. 31, what we noted was that  
19                you chose to use the SW data for the Little Elbow  
20                Summit snow station, ID 05BJ805, as opposed to the  
21                SW-SS data.

08:38

22                        And when you take this question away, if you could  
23                confirm that the SW data and the SW-SS data provide  
24                different readings, I'd like you to confirm that the  
25                SW-SS data is actual manual snow core survey

**M. WOOD****Cross-examined by Mr. Secord**

1 measurements from numerous locations, approximately 10,  
2 spaced at approximately 30-metre intervals while the  
3 SW data is NRT, or near real time, data from a  
4 particular pillow -- a particular snow pillow location.

5 Is that your understanding, or is that something  
6 you'd have to take away?

7 **A. MR. WOOD:** No, Mr. Chairman, I believe I can  
8 answer that now.

9 The description of SW and SW-SS data is correct,  
10 and Mr. Secord is correct that we used the SW data,  
11 although, I don't believe that is the error.

08:39

12 As correctly pointed out, SW is a realtime from a  
13 sensor, and every couple of years, they would go out  
14 and do what they call snow core surveys measuring data.  
15 And the data that's available from the Alberta  
16 government includes both those data sets and they are  
17 different.

18 However, I don't believe that is the genesis of  
19 the error and the confusion that I caused to the Board.  
20 The data that I pulled, it was done as an internal  
21 exercise in 2019, and I used 2018 data. I noted that  
22 Mr. Fennell pointed out that it's not current.

08:40

23 Where my error was is that the way the data is  
24 presented, is they present historic totals for the  
25 year, and you can see every year in that report, with

M. WOOD

Cross-examined by Mr. Secord

1 the most current year being let's say 2018 in my case.  
2 What I didn't realize was that the report was from  
3 January 2018. They would have issued another one in  
4 February 2018 and March. And so the historic totals I  
5 was looking at was actually the historic totals for  
6 January, and that's why they're much smaller.

7 So, again, it was the exact same station. We  
8 could discuss the merits of which dataset to pick, but  
9 that was not the error. I incorrectly used the  
10 January dataset, whereas Mr. Fennell, while he pulled  
11 current data, also correctly pulled the June dataset,  
12 which would be more representative of total snowpack  
13 for the year.

14 Q. And so I guess the question would be why did you choose  
15 to use data from one automated location versus manual  
16 readings from numerous locations, which might be more  
17 representative of actual conditions.

18 A. MR. WOOD: Mr. Chair, my decision to do that  
19 was because there was more years of data. I don't know  
20 if -- while it would make sense to use measured data,  
21 it's more accurate for that measurement on that year,  
22 the dataset is less complete. But as for -- as  
23 respected -- in my retraction, we've requested that  
24 this -- all this data be removed.

25 Q. Okay. And then I think the second question I had for

08:41

08:41

**M. WOOD****Cross-examined by Mr. Secord**

1           you, you've answered. How do you explain the  
2           discrepancy in the data between what you have provided  
3           in Exhibit 390 and what is shown in the yellow  
4           highlighting, which was -- which Dr. Fennell took  
5           directly from the AEP website for snowpack rankings.  
6           You've explained that; correct?

7           **A. MR. WOOD:                   That is correct. That is my**  
8           **explanation.**

9           **Q.** And then the third question was, how does this change  
10          your calculations for percentile values given the  
11          discrepancies noted, and perhaps what you could do is  
12          look at Exhibit 397 and let me know whether you agree  
13          with -- I believe Dr. Fennell did some analysis of  
14          that, but perhaps you could get back to us and let us  
15          know whether you agree that the percentage -- the  
16          percentile values would be changed in accordance with  
17          Exhibit 397. Would that be agreeable?

18          **A. MR. WOOD:                   Mr. Chair, I don't believe I need**  
19          **to take that back.**

20                   **While I haven't dove into each of the**  
21                   **calculations used, it does look generally correct.**  
22                   **Again, my incorrect use of the base data was the**  
23                   **genesis for the incorrect percentiles.**

24                   **If Mr. Fennell is using the June snowpack and**  
25                   **calculating percentiles accordingly, I have no reason**

08:42

08:42

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 to believe that it's incorrect.

2 Q. And then obviously this would change your comparison  
3 regarding the snowpack measurements and flood  
4 frequencies in Exhibit 327, PDF page 48, Figure 1, and  
5 PDF page 49, Figure 2. Would you be able to provide us  
6 with revised -- revised figures?

7 A. MR. WOOD: Mr. Chair, we've requested to  
8 retract those figures and the arguments surrounding  
9 them, as I described earlier.

10 MR. SECORD: Okay. Well, I think that's good  
11 enough. Thank you, Mr. Wood.

12 THE CHAIR: Thank you, Mr. Wood.

13 Mr. Kruhlak? Okay. Thank you.

14 Okay, Mr. Secord, I think are you ready to  
15 continue cross-examination?

16 MR. SECORD: I am. I'm hoping you're going to  
17 start my hundred minutes now, sir, and not -- not count  
18 the undertaking.

19 THE CHAIR: That's totally fair. Thank you.

20

21 M. HEBERT, M. SVENSON, W. SPELLER, D. BRESCIA, M. WOOD,  
22 T. NOBLE, J. HALLSON, N. DE CARLO, E. TERRY, I. WHITSON,  
23 R. PERSON (For Alberta Transportation), previously  
24 sworn/affirmed

25

08:43

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 **MR. SECORD CROSS-EXAMINES THE PANEL:**

2 MR. SECORD: So what I'd like to do,  
3 Ms. Friend, is to have the -- my PDF aid to cross  
4 pulled up that I sent out.

5 THE CHAIR: Which --

6 MR. SECORD: Does that also have to be scanned?

7 THE CHAIR: Well, we're trying our best.

8 Now, Mr. Secord, when was this one --

9 MR. KENNEDY: So they -- they are fine to load  
10 now.

08:44

11 THE CHAIR: They are? Okay. Great. Thank  
12 you.

13 MS. FRIEND: So can you be more specific --

14 MR. SECORD: This would be --

15 MS. FRIEND: -- which one?

16 MR. SECORD: -- this would be the Aid to Cross  
17 Number 1, the PDF document. So 396 and 397 were Excel  
18 spreadsheets, so this is the PDF document that I that  
19 sent out -- I sent out this morning at about 5:30 a.m.

20 MS. FRIEND: Oh, right. Okay. Sorry, my head  
21 is a bit muddled, and so I just want to make sure that  
22 the document manager gets the correct one up.

08:45

23 THE CHAIR: Actually, the pages -- yeah, we've  
24 been kind of all night and early in the morning trying  
25 to get all of this rectified and checked, folks, so I

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 really appreciate the patience.

2 MS. FRIEND: Okay. It's not the Water Council  
3 or weed control. I think those were Mr. Okoye's.

4 I'm sorry. I'm just not --

5 THE CHAIR: Mr. Secord, is it the spreadsheet?

6 MR. SECORD: No, it's the --

7 MS. FRIEND: It was a document; right --

8 MR. KENNEDY: Yeah, 5:44 in your email, Laura.  
9 5:44 this morning.

10 MS. FRIEND: Yeah, I'm sorry. I'm not seeing  
11 it in the folder. I may have put it in the wrong --

12 MR. KENNEDY: I'll send it to you right now.

13 MS. OKOYE: I've actually re-sent it to  
14 Ms. Friend. It's Ifeoma Okoye. Good morning.

15 MS. FRIEND: Yeah, I do have it in my email. I  
16 don't -- didn't put it in the folder for the document  
17 managers --

18 MS. OKOYE: Okay.

19 MS. FRIEND: -- it's going to take a minute for  
20 me to get it into that folder.

21 MR. SECORD: Okay. Well, while you're -- while  
22 you're doing that, I'm going to go on to Mr. Person.

23 THE CHAIR: Yes, great idea. Yeah.

24 MR. SECORD: And, Dr. Whitson. So I'll come  
25 back to that.

08:46

08:46



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 Q. Now, I believe Dr. Whitson said yesterday around  
2 3:50 p.m. that the thickness relevant for soil erosion  
3 due to wind is 3 centimetres, and that's why he used a  
4 3-centimetre thickness on his maps, whereas the air  
5 quality assessment used 10 centimetres. Can you  
6 explain to me why -- why the difference?

7 A. MR. PERSON: Sure. Mr. Chairman, the different  
8 assessments were looking at different things. The soil  
9 assessment was looking at the erosion risk of soil in  
10 the context of the soil exclusively. So the soil  
11 assessment was not considering which potential areas do  
12 or do not have vegetation. Whereas we know from the  
13 literature and from observations that vegetation is one  
14 of the key controlling factors of which surfaces are at  
15 risk of wind erosion.

08:47

16 And, from this context, we used information from  
17 the vegetation assessment where they've indicated  
18 that at sediment depths greater than  
19 10 percent -- 10 centimetres, they've conservatively  
20 assumed that all this -- all the vegetation is at risk  
21 of dying or being covered and materially impacted. So  
22 you'll have to go to Mr. De Carlo to make sure to get  
23 the wording right on that.

08:48

24 So we made our determination of at-risk surfaces  
25 at -- we have wind erosion based upon the vegetation

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1           **interpretation of the data.**

2           Q. Now, Mr. Person, the AT air quality assessments only  
3           included the scenario of emissions with mitigation.  
4           And we heard Mr. Hebert say yesterday that they -- and  
5           I'm assuming this is the operator, which I understand  
6           now will be Alberta Environment. So as I understand  
7           it, AT says that the operator will apply mitigation as  
8           an adaptive measure.

9                       Do you agree, therefore, that it is likely that  
10           non-mitigated emissions of total suspended particles,  
11           TSP, PM 10 and PM 2.5 will occur or may occur before  
12           adaptive management occurs?

13           A. **MR. PERSON:**                       **Mr. Chairman, I believe Mr. Secord**  
14           **has not characterized the sediment management plan**  
15           **correctly.**

16                       **The plan is to apply mitigation. Where adaptive**  
17           **management comes in is the approach to measuring the**  
18           **effectiveness and, where necessary, altering or**  
19           **augmenting mitigation.**

20           Q. Okay. My understanding is there will -- we're going to  
21           go through this with Mr. Hebert, but there will be a  
22           delay -- as I understand it, it will be two weeks  
23           post-release that flood mitigation -- sorry -- I guess  
24           we better go into that in some detail -- but is there  
25           going to be a gap between the release scenario and the

08:49

08:50

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 mitigation?

2 A. MR. PERSON: Mr. Chairman, yes, there is a time  
3 gap, but for the initial period of time the sediment  
4 will be very wet, and then at the point it does become  
5 dry is the time when you can get on to apply  
6 mitigation.

7 And I'll ask Mr. Speller to augment that in terms  
8 of sediment management.

9 Q. Well, how do you know it's going to be very wet at the  
10 end --

08:51

11 A. MR. PERSON: Mr. Speller?

12 Q. I'm asking you, Mr. Person.

13 A. MR. SPELLER: Mr. Secord, it's -- Mr. Chairman,  
14 it's Wayne Speller.

15 I just want to clarify the way that Mr. Hebert's  
16 opening statement was characterized.

17 So I've got it. It's Exhibit 380. I've got a  
18 hard copy that's got paragraphs, so it's paragraph 16,  
19 and I'll read it. It says: (as read)

20 "Specifically, within two weeks of  
21 post-flood release the following steps  
22 will be implemented."

08:51

23 And then that is the section where it talks about  
24 surveying the area to undertake to trafficability,  
25 surveying the areas for signs of wind erosion and

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 applying mitigations; looking at alternative erosion  
2 control methods. Those are all within two weeks after a  
3 flood and --

4 Q. No, Mr. Speller, they are two weeks after release,  
5 those steps start. They're not during the two weeks,  
6 they're after two weeks.

7 Two weeks after full release, these things start;  
8 right?

9 A. MR. SPELLER: Mr. Chairman, it reads,  
10 "Specifically within two weeks of a post-flood  
11 release."

08:52

12 Q. Within two weeks. So two weeks after full release.  
13 Why don't we ask Mr. Hebert, rather than you  
14 interpreting it. Or did you write it?

15 A. MR. HEBERT: So, Mr. Chairman, I'm reading the  
16 document that I delivered yesterday, which is  
17 Exhibit 380, and at paragraph 16, it says,  
18 "specifically within." I don't have a dictionary in  
19 front of me, but I think to benefit the Board's  
20 understanding, within two weeks would be at any point  
21 within -- within those two weeks.

08:53

22 And I think, as I also emphasized yesterday, these  
23 are -- these are guide posts to provide some form to a  
24 monitoring and management program and, certainly, it is  
25 not -- it's not fixed in stone. If at some point

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1           within two weeks there was some need to react in a  
2           particular way, AEP, as operator, and Transportation as  
3           proponent here today is saying it would make the  
4           necessary response reflecting the conditions in place  
5           at the time.

6           Q. Well, that's all well and good, Mr. Hebert, but we've  
7           seen no budget for this, and I guess you can pretty  
8           much say anything you want, but it's AEP who's going to  
9           operate it, and as I understand it, within two weeks of  
10          the release, the full release, AEP can decide that,  
11          gee, maybe we should get busy and do something about  
12          all the dust that's flying around. So, as I read your  
13          opening statement, it could be two weeks before AEP  
14          decides to do anything.

08:54

15                 And so my question to Mr. Person was, the air  
16                 quality assessments only included the scenario of  
17                 emissions with mitigation, and I said to him: (as read)

18                         "Therefore, it is likely that  
19                         non-mitigated emissions of TSP, PM 10,  
20                         and PM 2.5 will occur before AEP gets  
21                         around to mitigating or finding the  
22                         money in its budget to do it."

08:55

23                 So can you confirm, Mr. Person, that those scenarios  
24                 were not provided and were not modelled?

25           A.   MR. PERSON:                         Mr. Chairman --

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 MR. KRUHLAK: Mr. Secord, it's Ron Kruhlak. I  
2 don't want to needlessly interject, but it seems you're  
3 asking a question to which the basis of Mr. Hebert has  
4 confirmed will not be the case --

5 MR. SECORD: I disagree, Ron. I mean, within  
6 two weeks, so it could be two weeks before anything  
7 gets going.

8 MR. KRUHLAK: He did indicate that it would be  
9 reviewed within that time frame, and if conditions  
10 warranted, steps would be taken; and throughout, we're  
11 speculating on what might occur in the future and what  
12 he's proposed is, if that situation is identified,  
13 steps would be enacted.

14 MR. SECORD: I mean, if this Board issues an  
15 approval, we don't know that any of that is going to  
16 happen.

17 So, first of all --

18 MR. KRUHLAK: Well, Mr. Secord, again, I'll  
19 stand down here shortly, but -- but you do have  
20 commitments that have been made by Alberta  
21 Transportation on this issue. So I think the Board has  
22 some comfort as to what is going to be taking place if  
23 there is an approval granted.

24 MR. SECORD: Well, we'll leave that for  
25 argument.

08:55

08:56

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 Q. So assuming, Mr. Person, that AEP doesn't get around to  
2 mitigation for two weeks post release, can you confirm  
3 that those scenarios were not provided and not  
4 modelled?

5 A. MR. PERSON: Mr. Chairman, the scenario that  
6 was modelled reflects the sediment management plan that  
7 reflects a known lag period between when you can get on  
8 the site and apply mitigation.

9 And by this I mean, we have modelled a  
10 certain percent of control or a certain percent  
11 reduction in emission rate relative to what a -- what  
12 the uncontrolled emission rate would be, and that  
13 effective rate of control reflects both an initial  
14 period when the sediment is wet, and when it dries out  
15 and active forms of mitigation are applied. So it  
16 reflects the entire time period post release of the  
17 water.

18 Q. So did you model no mitigation activity taking place  
19 for two weeks post-release?

20 A. MR. PERSON: Mr. Chairman, again, our  
21 response -- or our scenario reflects what we think is a  
22 realistic case of the potential for wind erosion right  
23 from the moment when water is released up until when  
24 vegetation establishes and becomes a surface or an area  
25 that's not at material risk at wind erosion.

08:57

08:58

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 Q. So the answer to my question is no, you didn't?

2 It's a pretty simple question, Mr. Person.

3 A. MR. PERSON: Mr. Chairman, the question is  
4 being put forward in a way that is not consistent with  
5 the basis of our assessment.

6 Q. According to the Alberta Air Quality Modelling  
7 Guideline, and this is the -- I'm assuming you used the  
8 air quality model guideline, Mr. Person?

9 A. MR. PERSON: Yes.

10 Q. And did you have regard to -- what was the date of the  
11 document that you relied on?

12 A. MR. PERSON: The current version of air quality  
13 model guideline that has been released and that's in  
14 effect is dated 2013. There has been a 2020 version  
15 released in draft, I believe, late last year, that is  
16 out only for public comment and is not yet in effect.

17 Q. And could you undertake to provide us with a copy of  
18 the 2013 guideline that you relied on?

19 A. MR. PERSON: Mr. Secord, it's online on Alberta  
20 Environment and Parks' websites -- website, and I  
21 believe the hyperlink is provided in our March 12th  
22 reply submission, Exhibit 327.

23 Q. Okay.

24 A. MR. PERSON: You just click on the link, you'll  
25 find it.

08:59

09:00



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 Q. So you weren't relying on the 2020 air quality model  
2 guideline?

3 A. MR. PERSON: No.

4 Q. And have you looked at the 2020 air quality model  
5 guideline?

6 A. MR. PERSON: Mr. Chairman, I have -- I have  
7 looked at it briefly in the context of providing some  
8 input to Alberta Environment and Parks in regard to  
9 certain -- certain sections of it, but I have not  
10 looked at it in the context of this project.

09:01

11 Q. And do you think it has any applicability to this  
12 project, or is it the case that it would be the 2013  
13 guideline that would be applicable?

14 A. MR. PERSON: The 2020 draft is a draft only out  
15 for public comment. It is not in effect, and it is not  
16 the guidance that applies to this project.

17 MR. SECORD: So, Ms. Friend, are you able to  
18 pull up the aid to cross?

19 MS. FRIEND: Yes, Mr. Secord, the document  
20 manager has it now, so she can pull it up.

09:01

21 MR. SECORD: And if we could go to PDF page 1.

22 Q. So, Mr. Hebert, can you confirm that there is a  
23 proposed development that we talked about earlier just  
24 to the east of the PDA?

25 Would you agree that this gives a -- the location

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 of that proposed development that we were talking  
2 about?

3 **A. MR. HEBERT:** Mr. Chair, subject to check, I  
4 believe that's correct.

5 **Q.** And are you aware -- I take it you're aware of the  
6 Kamp Kiwanis and Camp Hope locations to the south of  
7 the PDA?

8 **A. MR. HEBERT:** Mr. Chairman, I would say those  
9 are the locations, subject to check.

10 **Q.** And are you familiar with the retreat centre that  
11 appears to be just underneath or to the south of the  
12 PDA?

13 **A. MR. HEBERT:** Yes, I'm familiar with the retreat  
14 centre at that location.

15 **Q.** Are you aware that charity programs have been conducted  
16 essentially on the -- I guess it would be the northeast  
17 side of the PDA?

18 **A. MR. HEBERT:** Mr. Chairman, I'm aware there's  
19 facilities that could provide those programs in that  
20 location, yes.

21 **Q.** And then if we could go to the next PDF Slide 3.

22 In relation to the schools, can you confirm that  
23 there are, in fact, a number of schools, Edge School,  
24 Elbow Valley Elementary School, Springbank Middle  
25 School, Springbank High School?

09:03

09:03

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1     **A. MR. HEBERT:**            **Yes, Mr. Chairman, I believe that**  
2            **to be correct.**

3     **Q.** And there's also, in that rectangular area, Springbank  
4     Park for All Seasons, a football field, two baseball  
5     diamonds, a hockey arena, beach volleyball, and two  
6     indoor hockey arenas?

7     **A. MR. HEBERT:**            **Yes, Mr. Chairman, that would**  
8            **appear to be correct.**

9     **Q.** There's also a senior's -- Springbank -- Heritage Club  
10    Seniors Centre and Lion's Club Soccer Park in that  
11    rectangular area?

12    **A. MR. HEBERT:**            **Yes, Mr. Chairman, that would be**  
13            **correct.**

14    **Q.** And are you aware that there is a future private high  
15    school being planned, including playing fields,  
16    basically in the -- I guess just to the west of the  
17    PDA?

18    **A. MR. HEBERT:**            **Mr. Chairman, subject to check, I**  
19            **don't think that to be correct (verbatim).**

20    **Q.** You don't think that's correct?

21    **A. MR. HEBERT:**            **No, Mr. Chairman, I'm saying,**  
22            **subject to check, I'll take that to be correct.**

23    **Q.** Okay. And then on PDF page 4, I take it you don't take  
24    any particular issue with the locations of these  
25    various schools and facilities, et cetera, on this map?

09:04

09:05

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 A. MR. HEBERT: Mr. Chairman, I will accept those  
2 to be correct, subject to check.

3 Q. And the same with PDF page 5?

4 A. MR. HEBERT: Again, I believe they're the same  
5 depiction, so I will take those to be correct.

6 Q. And PDF page 6?

7 A. MR. HEBERT: We're now working with a different  
8 map, but I -- based on locations that have been  
9 presented previously, I will take those to be correct.

10 Q. Thank you, Mr. Hebert.

09:06

11 Can we have that marked as the next exhibit?

12 MS. FRIEND: That would be Exhibit Number 398.

13 EXHIBIT 398 - AID TO CROSS SCLG TO AT  
14 TOPIC 5 - AIR QUALITY AND COMMUNITY  
15 LOCATIONS

16 Q. MR. SECORD: Now, Mr. Person, in relation to  
17 the 2020 Air Quality Model Guidelines that are out for  
18 draft, can you confirm that the maximum release  
19 scenario must be presented in addition to typical  
20 emissions --

09:06

21 MR. KRUHLAK: Mr. Secord, sorry to briefly  
22 interrupt. It's Ron Kruhlak.

23 You've marked this exhibit based on Mr. Hebert  
24 generally confirming locations, but I take it the  
25 depiction of the air modelling that's overlaid on these

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 documents, I don't know, he wasn't speaking to that at  
2 all. I just want to confirm it on the record, and I  
3 trust you'll have somebody addressing that if they're  
4 identified as Mr. Zelt's documents?

5 MR. SECORD: Well, this is a Stantec document,  
6 isn't it, that we're looking at here?

7 MR. KRUHLAK: You're looking at the earlier  
8 ones, I take it, were identified by Mr. Zelt that  
9 you've just marked as an exhibit?

10 MR. SECORD: Yeah, those were -- those were  
11 taken from Dr. Zelt's reports, but what we have up here  
12 is from a Stantec document. I think it's just showing  
13 the same location of these various schools on various  
14 different maps, that's all.

15 MR. KRUHLAK: All right. Thank you.

16 MR. SECORD: And I mean, Dr. Zelt will be  
17 coming up to speak to his report, but I think the  
18 purpose for me for putting this in was just to show,  
19 you know, where the camps were, where the schools were,  
20 where people might be out and about breathing the air.

21 MR. KRUHLAK: Thank you.

22 Q. MR. SECORD: Now, in the -- in the 2020 version  
23 of the Air Quality Model Guideline, do you recall it  
24 stating in Section 1 that: (as read)

25 "This guidance provides detailed

09:07

09:08

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 guidance on suitable methods and  
2 approaches that should be used to assess  
3 air quality."

4 Do you recall reading that, Mr. Person in the --  
5 Mr. Person, in the 2020 document?

6 **A. MR. PERSON:** Mr. Chairman, the 2013 version of  
7 the model guideline is what is actually in effect today  
8 and is what what was used as the basis of the air  
9 quality assessment presented on the record.

10 **Q.** Does that document also state the same concept, that  
11 the guidance for the 2013 document that provides  
12 detailed guidance on suitable methods and approaches  
13 that should be used to assess air quality? Does it  
14 basically, you know, provide the same sort of direction  
15 to people like you?

16 **A. MR. PERSON:** Yes.

17 **Q.** That was my only point, that these are documents that  
18 provide detailed guidance on suitable methods and  
19 approaches that should be used to assess air quality;  
20 correct?

21 **A. MR. PERSON:** Yes. It reflects the preferred  
22 methods or the allowable methods established by Alberta  
23 Environment and Parks. Standards are a common method  
24 which they deem to be acceptable for regulatory  
25 applications and reflecting what they feel is best

09:09

09:09

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 practices.

2 Q. Right. Now, in relation to Exhibit 398, I don't think  
3 we need to pull it up, but the location of -- of these  
4 various baseball diamonds, camps, soccer fields, can  
5 you tell me, has Alberta -- has AT considered the  
6 significant number of cyclists who use Springbank Road,  
7 Highway 8 and Highway 22 during the summer season, and  
8 has the proponent conducted a study of these roads to  
9 determine the -- basically, have they conducted a  
10 cycling study to determine whether there's increased  
11 respiration associated with cycling and whether the TSP  
12 and PM 2.5 and PM 10 could be of particular harm to  
13 those cyclists?

09:11

14 I don't know if that's a question for Ms. Noble?

15 A. MS. NOBLE: So as part of the human health  
16 risk assessment, we evaluated the potential for human  
17 health -- the potential human health risks at the  
18 special receptor locations. Those are the locations  
19 where people were most likely to be exposed for the  
20 exposure durations under consideration in the risk  
21 assessment, the one-hour, 24 hour and annual average.

09:11

22 Q. So would that include cyclists using the Springbank  
23 area?

24 A. MS. NOBLE: From the perspective of that we  
25 also initially considered the MPOI and provided

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 guidance on potential health risks associated with the  
2 MPOI. Again, I will -- and sorry to use jargon. MPOI  
3 is maximum point of impingement. And so to the extent  
4 that we've evaluated the potential health risks  
5 associated with those locations, then yes, we would  
6 have identified the potential risk.

7 Q. Now, there are homes in the area, including that of my  
8 client, Brian Copithorne, who will be on the doorstep  
9 of the reservoir. What is the impact of degraded air  
10 quality on Mr. Brian Copithorne who may experience  
11 prolonged exposure to the TSP and PM 2.5 particles?

09:13

12 MR. FITCH: Mr. Secord, it's Mr. Fitch.

13 I know where your client Mr. Copithorne lives, and  
14 you obviously know where he lives, but it might be  
15 useful if you pulled up a map or provided a bit of  
16 guidance to Ms. Noble so she knows where his residence  
17 is, and also Mr. Person. That would be fair.

18 A. MS. NOBLE: Just to confirm, I believe that's  
19 SR Number 4?

20 Q. MR. SECORD: And I was thinking, you know,  
21 there's a number of -- of camps and people who are in  
22 and around the reservoir, so you don't have to restrict  
23 it just to Mr. Copithorne if you want, but I'm just  
24 wondering about whether you can speak to these people  
25 who are nearby?

09:14



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1           And I mean, if you do want to pull it up. It just  
2 takes up a lot of time pulling up documents, so I  
3 prefer to keep going if I can. I've still got quite a  
4 few questions.

5       **A. MS. NOBLE:**                   No, that won't be necessary. So  
6 as part of the risk assessment, we identified potential  
7 human receptor locations that -- where people were most  
8 likely to exposed.

9           Your client's location, Brian Copithorne, is  
10 certainly one of those locations, as are most of the  
11 locations that you've identified in red on your aid to  
12 cross.

13           So at each of those locations, we reviewed the  
14 predicted air quality concentrations and compared those  
15 to appropriate exposure limits.

16           So in terms of the exposure ratios, we consider  
17 them for the four cases, assuming that you want me to  
18 speak specifically to the post-flood scenario. Is that  
19 correct?

20       **Q.** Yes.

21       **A. MS. NOBLE:**                   So, as part of the post-flood  
22 scenario, as noted by my colleague Mr. Person  
23 yesterday, the risk assessment considered four  
24 different cases. Case Number 1 was similar to the  
25 environmental impact assessment with the corrected

09:14

09:15

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 PM 2.5 emissions.

2 As identified in our submission, Exhibit 237, we  
3 compared the predicted air quality concentrations  
4 associated with post-flood conditions following a 1 in  
5 100-year and 1 in 200-year flood event. Predicted  
6 concentrations for PM 2.5 for 1-hour and 24-hour at  
7 each of those receptor locations was less than the  
8 exposure limit and, as a result, represented no  
9 unacceptable risk.

10 Under the sensitivity analyses that were modelled,  
11 those would be Cases 2, 3, and 4, as discussed  
12 previously by my colleague, Mr. Person, I'll focus on  
13 Case Number 4, which presented the highest potential  
14 concentrations identified from the air modelling.

15 Under those scenarios, there were maximum -- there  
16 were maximum concentrations of PM 2.5 for 1-hour  
17 exposure durations and 24-hour exposure durations.  
18 They were higher than the health-based limits that we  
19 used to complete the assessment, and as a result, we  
20 calculated exposure ratios, which are our metric for  
21 health risk, greater than 1.

22 To better characterize that risk, we went further,  
23 and we viewed the -- we viewed the assumptions  
24 associated with the air modelling, the predictive  
25 frequency of exceedance, and the potential for

09:16

09:17

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 additional mitigation to reduce the air quality  
2 exposure limits.

3 Based on that analysis, we determined that, one,  
4 the predicted concentrations were under a very limited  
5 exposure scenario, so it require a low-recurrence flood  
6 event. It also was contingent on having a finer  
7 sediment deposited than was originally assumed in the  
8 environmental impact assessment. The predicted  
9 frequency of those exceedances based on assumed partial  
10 mitigation was relatively limited, less than 1 percent  
11 of the time for 1-hour exposures and less than  
12 4 percent of the time for 24-hour exposures.

09:18

13 Further, in consultation with Mr. Person regarding  
14 the potential for additional mitigation to be applied  
15 to reduce the risk of exposure, we identified a number  
16 of additional mitigation measures that could be  
17 applied, and we covered those off in our Exhibit 327.  
18 Those included additional application tackifier, as  
19 well as additional dust suppression methods.

20 Q. Mr. Person, just going back to the 2013 guideline that  
21 you used and the 2020 guideline that is out for  
22 comment, can you tell me, is the 2020 guideline more  
23 conservative than the 2013 guideline? Have you looked  
24 at that?

09:18

25 A. MR. PERSON: Mr. Chairman, the 2020 guideline

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 is just a draft for public comment. We don't know what  
2 will be in the final version; we don't know when it  
3 will be released and replace the 2013 version. The  
4 2013 version is what was used in the assessment. It is  
5 what should be used in assessments today.

6 Q. Look, things keep evolving. I'm just wondering whether  
7 the 2020 guideline would be more protective for my  
8 clients, whether you've looked at that.

9 A. MR. PERSON: Mr. Chairman, at a high level,  
10 they're similar. I have not done any quantitative  
11 analysis to compare which one is more or less  
12 conservative looking at -- you know, on a project like  
13 this.

14 Q. So assuming this guideline comes into effect during  
15 the -- and in the unfortunate event that this project  
16 is approved, would it be reasonable for the NRCB to  
17 impose a condition that the modelling be done with  
18 using the guidance provided in the 2020 air modelling  
19 guideline?

20 A. MR. HEBERT: One moment, Mr. Chairman.

21 So, Mr. Chairman, as others on our witness panel  
22 have explained this morning, the 2020 draft guidelines  
23 are just that, they're draft, out for, as I understand  
24 it, consultation and review.

25 We -- we are more than prepared to submit to the

09:19

09:20

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 guidelines that are in effect today and to respond and  
2 comply to those as required under those guidelines or  
3 other applicable policies.

4 Q. Now, in Topic 2, Mr. Wood stated that the project would  
5 only have been used 10 times in the last 100 years, and  
6 I'm just wondering whether the panel has considered how  
7 much sediment would be accumulated under this  
8 assumption and what would its impact on the reservoir  
9 be in terms of depths and spread for all the known  
10 floods since, I guess, 1921.

09:22

11 So I guess what I'd like to get, in terms of a  
12 general sense, is if the past is a predictor of the  
13 future and if we had, you know, 10 floods like we've  
14 had -- or 10 uses of the reservoir, say, had it had  
15 been there in 1921, can anybody on the panel -- and  
16 this is a question from my clients.

17 Can anyone on the panel speak to what the sediment  
18 spread would look like around the reservoir? Would it  
19 be concentrated in one area near the embankment?

20 So the proponent has responded that the sediment  
21 would be moved around the reservoir to ensure drainage,  
22 so I'm just wondering if somebody can, you know, give  
23 kind of a picture for my clients to understand, you  
24 know, what would -- what would this reservoir look like  
25 if the past happens in the future?

09:23

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1           And it may be a difficult question, and if you  
2           can't answer it, that's fine, so...

3       **A. MR. WOOD:**                   **Mr. Chairman, this is Matt Wood.**  
4           **While we haven't done that specific assessment, I would**  
5           **like to draw the Board's attention to Exhibit 173,**  
6           **page 28 of the PDF.**

7           **Document Manager, if you wouldn't mind bringing**  
8           **that up, please?**

9           **I ask because it will allow to provide some**  
10          **context here.**

09:24

11       **THE CHAIR:**                   **Sorry, once again that exhibit**  
12          **number and page?**

13       **MR. SECORD:**                   **173.**

14       **A. MR. WOOD:**                   **Page 28.**

15       **THE CHAIR:**                   **28. Thank you.**

16       **MS. FRIEND:**                   **Hello, this is Laura. That one**  
17          **isn't preloaded, so we have to go looking for it, so**  
18          **you'll have to give us a minute.**

19       **MR. SECORD:**                   **Okay.**

20       **MS. FRIEND:**                   **Thank you.**

09:24

21       **Q. MR. SECORD:**                   **Okay, then I'll come back to that,**  
22          **so don't -- Mr. Wood, if that's okay with you?**

23           **And if I could go to Mr. Hebert.**

24           **Mr. Hebert said that there would be surveys and**  
25          **geotools used two weeks post-flood. So just to**

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 confirm, these surveys and geotools would be used when  
2 the reservoir is fully drained; correct?

3 A. MR. HEBERT: Just one moment, Mr. Chair.

4 So, Mr. Chairman, I'd invite other colleagues in  
5 case I -- my answer doesn't get there, but I think it  
6 would be important to note that the methods that were  
7 provided as an overview yesterday would contemplate  
8 that in the event of a design flood, a large event,  
9 that the operator would begin its surveying work and  
10 its monitoring work as the reservoir -- reservoir  
11 drained.

09:26

12 So it wouldn't necessarily require the entirety of  
13 the reservoir to drain and then the surveying to begin.  
14 So it contemplates that as the reservoir is draining,  
15 there would be surveying activities.

16 I don't want to speculate on every permutation,  
17 combination of event, but certainly if events were  
18 smaller than the design flood, the monitoring  
19 activities would have to respond and reflect the -- the  
20 space that would have been consumed by the deposited  
21 water.

09:27

22 So, you know, certainly, the sediment management  
23 approach that's being contemplated has a range of tools  
24 that are -- that would be at AEP's disposal, but  
25 certainly the activity would begin -- by "activity"

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 meaning the surveying and the monitoring -- would begin  
2 as soon as AEP is able to get on -- onto the site.

3 Q. Can we have that page back up, document host?

4 While that's happening, so if this was a design  
5 flood such as we had in 2013, so you would have the  
6 reservoir basically filled by the -- let's say the 23rd  
7 of June, you would have 39 days on it to get rid of the  
8 water in the reservoir under an early release scenario.  
9 We looked at that yesterday on Exhibit 218, PDF  
10 page 28, the release scenarios. So we're now into  
11 August, Mr. Hebert, 39 days post, you know, a  
12 mid-June 2013 flood, design flood.

09:28

13 So what geotools would be used by the operator?  
14 What do these look like? What would they be?

15 A. MR. HEBERT: Mr. Chairman, one moment. I'll --  
16 I'll invite the person on the panel that can provide an  
17 appropriate response.

18 A. MR. SPELLER: Mr. Chairman, it's Wayne Speller.

19 Mr. Secord, just to clarify, we didn't use the  
20 term "geotool," so I just want to make sure we're  
21 responding to your question properly. Are you  
22 referring to the sentence that says: (as read)

09:29

23 "Given the nature of the surface in a  
24 post-flood release scenario, one or more  
25 combination of tracked equipment, rig



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 matting or geocell installation may be  
2 required to ensure access."

3 Is that -- when you say "geotools," did you mean that?

4 Q. Yes, I did. Sorry for not being clear. Thank you  
5 Mr Speller. I was just pulling up paragraph 16(i) to  
6 check my reference, so thank you. That's what we're  
7 referring to, Exhibit 380, paragraph 16(i).

8 A. MR. SVENSON: Mr. Chair, this is Mark Svenson  
9 speaking. So those -- those are tools to allow access  
10 over soils or material that is soft, where regular  
11 vehicles may not be able to travel. So that's what  
12 those are. That's what those are referring to.

09:30

13 Q. And what is a geocell installation?

14 A. MR. WOOD: Mr. Chairman, I believe I can  
15 answer that. It's a soil stabilization measure that's  
16 used temporarily to provide a little bit of a firmer  
17 base. Again, it is optional if it is necessary for  
18 trafficability.

19 Q. Okay. And then in paragraph 17 of Exhibit 380,  
20 Mr. Hebert's opening statement, it says: (as read)

09:31

21 "Efforts in furtherance of Goals 3 and 4  
22 will commence shortly thereafter and, in  
23 any event, no later than between weeks 2  
24 and 4 post-flood release."

25 So as I read your paragraph 16 of 380, within two weeks

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1 of a post-flood release, there will be surveys of the  
2 area, there may be one or more of a combination of  
3 equipment matting or geocell installation may be  
4 required to ensure access, and two surveys of the area  
5 will be undertaken for signs of wind erosion, and these  
6 efforts will continue with regularity at no less than  
7 two-week intervals.

8 And then it says here in (iii): (as read)  
9 "Evaluation will be made of the area for  
10 soil moisture."

09:32

11 And (iv): (as read)

12 "If certain areas are identified and  
13 conditions are considered unsuitable,  
14 alternative erosion control measures --  
15 methods will be instituted."

16 So in paragraph 17, you said: (as read)

17 "Efforts in furtherances of Goals 3 and  
18 4 will commence thereafter and, in any  
19 event, no later than between 4 --  
20 between 2 and 4 -- between weeks 2 and 4  
21 post-flood release."

09:32

22 So let's say we have a reservoir full on the 23rd of  
23 June. We have an early release. Getting the water out  
24 within 39 days. Takes us into August. It could then  
25 be -- it could be, then, early September before certain

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1 areas of erosion risks are identified.

2 Do I understand -- I'm just trying to read your  
3 opening statement, Mr. Hebert, and understand whether  
4 your use of the words "Goals 3 and 4" refer to  
5 Roman (iii) and Roman (iv) in paragraph 16. Do I have  
6 that right?

7 A. MR. HEBERT: Mr. -- sorry. I'll let  
8 Mr. Brescia respond.

9 A. MR. BRESCIA: Mr. Chairman, it's Dave Brescia  
10 here. So reiterating what was said previously, these  
11 goals are guideposts for time and aren't fixed points  
12 in time. As was just discussed, in a design flood, the  
13 intent is not to let the reservoir fully drain before  
14 initiating any efforts.

15 As part of their operations and maintenance,  
16 Alberta Environment and Parks will be on site for the  
17 entire time of release. And during that time, areas of  
18 the reservoir that drain at the far reaches of the  
19 reservoir will be surveyed first and efforts will be  
20 initiated in those areas and will progress following  
21 the receding water. So it's not that there will be  
22 large gaps in time.

23 Also, if additional erosion control is identified  
24 during that effort, it would be applied at that time.  
25 There would be no intent to wait -- to delay specific

09:33

09:34

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1 week mark, a two-week mark, or a four-week mark. So  
2 this is a dynamic effort and an iterative process.  
3 It's not a fixed guidepost.

4 I should also say that this is -- the process  
5 outlined in Mr. Hebert's opening remarks is just that,  
6 it's the initial process. The plan will be developed  
7 further as -- as the project progresses, and will need  
8 to meet other requirements that Alberta Transportation  
9 has in place in their master specifications for erosion  
10 control, and it will be adaptable to the situation on  
11 the ground.

12 A. MR. SPELLER: And, Mr. Chairman -- Mr. Secord,  
13 it's Wayne Speller again.

14 To clarify, I think, to get specifically to your  
15 question, Mr. Secord, paragraph 17 that you quoted  
16 talks about Goals 3 and 4, and then it talks about  
17 Goals 1 and 2. Those aren't the four bullets above in  
18 paragraph 16. They're actually the goals referred to  
19 in paragraph 14, which states: (as read)

20 "Alberta Transportation has four  
21 specific goals in this regard:

22 1) safety and operations; 2) erosion  
23 control; 3) weed control; and  
24 4) revegetation.

25 I know both of them are four sets of information, but

09:35

09:36

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

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1 the goals are in paragraph 14.

2 Q. Okay. Thank you, Mr. Speller.

3 So Goal Number 2 is erosion control. And so if we  
4 go to paragraph 17: (as read)

5 "Efforts in furtherance of Goals 3 and 4  
6 will commence shortly thereafter and, in  
7 any event, no later than between Weeks 2  
8 and 4 post-flood release. These  
9 activities will be conducted at the same  
10 time and in association with the efforts  
11 discussed in relation to Goals 1 and 2."

09:37

12 And so when -- so basically erosion control would be in  
13 (ii): (as read)

14 "Surveys will be undertaken to assess  
15 signs for wind erosion, and survey  
16 efforts for these items will continue  
17 with regularity at no less than two-week  
18 intervals."

19 So as I, then, understand it, post release every two  
20 weeks there's going to be surveys done to look at the  
21 erosion issue. Do I have that right?

09:38

22 It's just oddly worded and you've got things moving  
23 around. My clients are really interested in  
24 understanding the sequential process of -- given that  
25 they're going to be there potentially in harm's way,

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1           they just want to get an understanding of what the  
2           operator is going to be doing and when it's going to be  
3           done.

4           So do I have that right, then, basically?

5   **A. MR. BRESCIA:**           **Mr. Chairman, it's Dave --**

6   **Q.** Two weeks post-release, then, surveys every two weeks  
7       for erosion? Do I have that right?

8   **A. MR. BRESCIA:**           **Mr. Chairman, it's Dave Brescia.**

9           So I would agree, it is not entirely clearly as  
10          it's -- clear as it's worded, but the general premise  
11          is that Goal Number 2 is erosion control. So that's  
12          implemented immediately as post-flood, as indicated  
13          there.

14          Surveys for erosion control are currently  
15          estimated at two-week intervals, but the point of the  
16          survey is to identify if additional attention is  
17          required. Then with respect to erosion, we wouldn't  
18          wait for a two-week block before responding to that.

19          So erosion control will be dealt with in the  
20          initial post-flood event, again following the flood as  
21          it's released, and then check-in surveys every  
22          approximately two weeks to identify any issues.

23   **Q.** So, yesterday, we were listening to -- we were on the  
24       water topic block, and my understanding was that for  
25       the benefit of the fish, they need an early release

09:38

09:39

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1 scenario. And then, as I understand it, today you're  
2 saying in relation to a design flood, there would not  
3 be an early release.

4 So what is -- sitting here today, what is the  
5 release scenario for a design flood and how long will  
6 it take for the reservoir to be completely drained?

7 **A. MR. BRESCIA:** Mr. Chairman, I'm not sure that we  
8 can say there wouldn't be an early release. So we did  
9 indicate in the water topic that early release scenario  
10 would be more beneficial for fish, and so that was the  
11 discussion we had with respect to the guidance from  
12 Fisheries and Oceans Canada.

09:40

13 The early release for the design flood would take  
14 35 approximately days to release the water. Again, I'm  
15 not certain that we said there would be no early  
16 release.

17 **Q.** I thought that I heard just a few moments ago that  
18 there would not be an early release of the floodwaters  
19 as a result of a design flood.

20 **A. MR. WOOD:** Mr. Chairman, this is Matt Wood.

09:41

21 I believe there's a little bit of confusion. The  
22 operation rule for SR1, as indicated in the operational  
23 flowchart that I brought up, I believe on Day 1, but  
24 there's no need to bring it up now, that operational  
25 rule is to release at -- when flows in the Elbow River

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1 drop below 160 cubic metres per second. That is the  
2 early release scenario.

3 As part of the environmental impact assessment,  
4 Alberta Transportation assessed both the early and late  
5 release scenario; the late release scenario being one  
6 where, in an unplanned situation, the operator may need  
7 to hold the water longer. Again, outlined --  
8 conditions outlined in that operational flowchart.

9 The reason why you're hearing about it today is  
10 because a lot of the -- the modelling was done on that. 09:42  
11 Because in the later release scenario, more sediment  
12 would drop out of the water in the reservoir and be  
13 left on the bottom.

14 And so my colleagues here are speaking to the late  
15 release scenario because it is more conservative given  
16 the subject that we're discussing today.

17 Q. And, document host, can you put up Exhibit 173, PDF  
18 page 28, please so we can have Mr. Wood address that?

19 A. MR. WOOD: Document host, while we're doing  
20 that, I hate to make you run around looking for files,  
21 but I would also like to bring up Exhibit 49, page 9 to  
22 couple with the graph that you brought up earlier for  
23 me. 09:43

24 Q. Thanks. So if you could pick up this thread, Mr. Wood.

25 A. MR. WOOD: Yes, Mr. Secord, I was just



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1 allowing you the opportunity to repose the question,  
2 but I believe you were asking about what would it look  
3 like, given the statements about SR1 may have operated  
4 10 times in the last, say, 100 years, 110 years, what  
5 might it look like as far as sediment extents and  
6 depths within the reservoir; is that correct?

7 Q. Yes.

8 A. MR. WOOD: Thank you. I requested this graph  
9 be brought up again. While I mentioned we had not done  
10 that specific analysis, I did want to provide some  
11 visual reference for the Board, and I requested that  
12 this graph be brought up.

09:44

13 What we're looking at here is a graph of  
14 instantaneous flood peaks on the Elbow River. On the  
15 far right, that tall bar, is the 2013 flood, which is  
16 the design flood.

17 And then of note, in this record, there are 10  
18 events. You'll see 160 cubic metres per second exceed  
19 a few times -- a few more times than 10 in the record,  
20 but what we evaluated is that in those scenarios, it is  
21 likely that the forecast would not have been one that  
22 would have caused the operator to trigger SR1.

09:44

23 So, roughly, we can look at the points in there  
24 that exceed 160, and where they exceed, you'll note  
25 that there is the 2013 flood, and there is also a major

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1 flood in 1932, which I believe was discussed with  
2 Mr. Klepacki at cross yesterday. There is also notable  
3 floods in the early '20s, and then some floods that may  
4 have triggered SR1 that are much, much smaller.

5 And in reference to the frequency, again we're  
6 talking about tying these to the modelled scenarios, of  
7 which a 10-year flood, a 100-year flood, and the design  
8 flood were modeled.

9 The 2013 flood is the design flood, and you can  
10 see that that only occurred once in the record.

09:45

11 The 1932 flood was the next largest one. And in  
12 reference to Exhibit 235, you don't need to bring that  
13 up, but that is the Golder 2020 flood frequency  
14 estimates. That 1932 flood would have been  
15 approximately a -- just under a 50-year event.

16 The other events that you see there, the ones  
17 around 400 would be approximately a 20-year using those  
18 same stats, and the ones below that are 10-year floods.

19 And now -- so if we can remember kind of what we  
20 saw here. If there's questions, we can flip back to  
21 this. I would like to draw the Board's attention to  
22 Exhibit 49 because it provides some information on the  
23 spatial distribution of what may deposit as far as  
24 sediment.

09:46

25 If I may, again, that was Exhibit 49, page 9 of

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1 the PDF.

2 Thank you, document manager. This is the figure I  
3 was looking for.

4 And I selected this specific one because it shows  
5 vegetation in the reservoir, which is the topic today.

6 What you're looking at is flood extents of a  
7 hundred year -- sorry, a 10-year, 100-year, and the  
8 design flood. Now, recognize --

9 Q. And this -- which is the design flood?

10 A. MR. WOOD: Yes. Yes, thank you, Mr. Secord.

11 The 10-year flood is the purple line, the purple  
12 squiggles you see kind of near the dam in the  
13 southeast. The 100-year is the densely hatched blue  
14 area surrounding that. So it's a bigger flood; it  
15 fills more of the reservoir. And the horizontal  
16 hatched lines -- again, you have to remember these are  
17 overlapping. But the horizontally hatched lines, that  
18 is the design flood.

19 So only once in the record would the extent of the  
20 sediment and the deep deposits fill that -- that  
21 horizontally hatched area. And only once, in addition  
22 to that, would the extensive sediment fill, let's say,  
23 the densely hatched area. Again, I mentioned that 1932  
24 flood was about a 50-year, and so it would be kind of  
25 within that space.

09:47

09:47

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1           So those are the two large floods in the last  
2 100-year record that the sediment, you know, may have  
3 filled more of the reservoir area.

4           The other events that you see were all in that  
5 10- to 20-year range. So the sediment would sit down  
6 in the purple, the purple extents there.

7           And if I may add, I must add that it's not that  
8 the sediment deposits over this entire -- while you  
9 will see more silts in the edges, coarser stuff down  
10 towards the reservoir, it will vary in texture through  
11 there, will vary in thickness. The flood extents I'm  
12 showing here are likely a good surrogate for the  
13 spacial extent of where sediment could end up. And I  
14 attempted to try and tie it into the record, so I hope  
15 that answered your question, Mr. Secord.

16 Q. Right. And I believe there's another depiction of this  
17 in Exhibit 218, page 85, but we don't need to turn that  
18 off -- up.

19           But let's imagine you have a design flood on  
20 June 20th; you have, what, over 2 million tons of  
21 sediment deposited into the reservoir. Some of it  
22 would be in excess of 100 centimetres or 3.28 feet in  
23 depth; correct?

24 A. MR. BRESCIA:           Mr. Chairman, this is  
25 Dave Brescia.

09:48

09:49

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1           So there would, in a design flood, be a small area  
2           of around 5 hectares that would be over a metre in  
3           depth, but the majority of it would be less than a  
4           metre.

5       Q.   And so after the flood event take place, there would be  
6           fish rescue teams, and their equipment would be in the  
7           area following the floodwaters, and these things would  
8           be moving from wet to dry areas disturbing the  
9           sediment; correct? Would that be happening?

10     A.   MR. BRESCIA:           Mr. Chairman, so the fish rescue  
11           teams would be in the area as we described previously.  
12           I believe they would be following the water. I don't  
13           know that they'd be going from wet to dry areas.

09:50

14           And there would be some disturbance of the  
15           sediment, both by -- by the foot traffic and -- and the  
16           water. But as -- as Ms. Okoye mentioned, as part of  
17           that process, there would be erosion controls in place  
18           to minimize mobilization of sediment.

19     Q.   And will dust suppression activities occur when the  
20           biologists are performing fish rescue activities, which  
21           could run the duration of the draining, or must it wait  
22           until the reservoir has no people?

09:50

23     A.   MR. BRESCIA:           Mr. Chairman, so when the  
24           biologists are performing fish rescue activities in the  
25           location they would be in, the sediment would be wet,

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1           because we're hoping to rescue the fish while there is  
2           still water there, so they wouldn't be dry. And, in  
3           fact, there would still be water present.

4           The -- in the design flood, as you can see from  
5           the figure on the screen, there is -- there is area in  
6           which sediment and erosion control could be applied  
7           distal from where the active fish rescue was going on.

8           Q. But I'm just saying, in relation to -- as the reservoir  
9           is being drained and, for instance, as the lands near  
10          the Copithornes are drying out, would you be  
11          potentially applying dust suppression while you still  
12          have biologists and their people in the reservoir  
13          performing fish rescue?

14          A. MR. BRESCIA:           Mr. Chairman, I think that would  
15          certainly be a possibility. As I -- as I indicated  
16          earlier, the fish rescue would not be in the same  
17          location as the dust suppression, given that the fish  
18          rescue is occurring near the wet areas of the  
19          reservoir; and if those further areas had begun to dry  
20          out, the fish rescue would have -- had already been  
21          completed. So they would be in two separate locations  
22          and could occur simultaneously.

23          Q. And as the water recedes from the shallow areas on the  
24          shoreline, would you agree that any deposited finds  
25          in -- of any elevated areas would be exposed to air and

09:51

09:52

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1 wind long before the reservoir is empty so that  
2 airborne particulates could begin as soon as the waters  
3 began to recede?

4 A. MR. BRESCIA: One moment, Mr. Chairman.

5 So, Mr. Chairman, it's Mr. Brescia.

6 As I -- as I was articulating previously, erosion  
7 control would be following the soil drying as it  
8 progresses through the reservoir. So the intent would  
9 be to apply erosion control to areas that -- that  
10 appeared to be at erosion risk.

09:53

11 Q. As water -- so has any weed mitigation taken place to  
12 this point during the drying process? So we're now a  
13 -- we're a month or so now post-flood.

14 A. MR. BRESCIA: Mr. Chairman, I'm not sure that  
15 that timeline correlates for me. As I said, the  
16 process is progressive, so weed mitigation would be  
17 following the erosion control aspect of it.

18 So, again, the process starts as the reservoir  
19 water recedes, and then -- so as we said, the fish  
20 rescue would be sort of the first part, and erosion  
21 control would follow in those areas as they started to  
22 dry out, and then weed mitigation would be following  
23 that process.

09:54

24 Now, I would say that, again, the process is  
25 adaptive, and if for some reason, there was an area

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1           that was found to have already established a  
2           problematic area of weeds, that wouldn't be ignored.  
3           That would be dealt with to remediate the situation, if  
4           it were required.

5       Q.   So here's the timeline that I'm working on, just so the  
6           panel can be clear: Basically we have the June 2013  
7           flood. We have the reservoir filling and completely  
8           filled by June the 20th. We have the waters receding  
9           on June 21, 22, 23. And assuming everything goes as  
10          planned, the reservoir drains over 30 to 40 days.

09:55

11                 So that's the timeline I'm working on.

12                 So the question then is: During this drying  
13           process, as the reservoir is receding, has any weed  
14           mitigation taken place to this point during the drying  
15           process? And we are now, say -- let's say we're a  
16           month post-flood. So we're into July.

17       A.   **MR. BRESCIA:**           So, Mr. Chairman, weed mitigation  
18           is definitely one of the -- one of the factors that's  
19           considered in this overall process. And, again, I'd  
20           like to reiterate that weed mitigation would occur at  
21           the areas of the reservoir that had dried earlier. And  
22           so we're not talking about a one-month time span before  
23           any action is taken again.

09:56

24                 Like, the reservoir, as I indicated, has  
25           approximately just over a month to drain in a design



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1 flood, so weed mitigation would be initiated at the far  
2 ends of the reservoir where water drains first much  
3 sooner than the reservoir is completely drained.

4 Q. So you're going to do weed control; you're going to  
5 apply tackifiers to control erosion. You still have  
6 fish presumably entrained. Presumably there will be  
7 rain, periods of rain occurring during the drawdown.

8 How many types of chemicals are you going to be  
9 applying to the reservoir area, in the tackifiers, and  
10 in the weed control process?

09:57

11 A. MR. BRESCIA: Mr. Chairman, so there's a couple  
12 of things in here.

13 The process is dynamic, and the process of  
14 vegetation management and reclamation is an integrated  
15 process. It's not -- it's not discrete elements that  
16 don't work together.

17 I think the rain, if it were to occur, would be in  
18 itself an erosion management measure, as we know and  
19 have heard the wet sediment is less erodible, so that  
20 would be an aid in that respect.

09:58

21 In terms of tackifiers, tackifiers, there's a wide  
22 array of non-toxic biodegradable tackifiers that are  
23 available and are widely used throughout the province  
24 and the country.

25 And with respect to weed management, we've

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1 indicated the preference for weed management is  
2 mechanical or cultural control. "Cultural control"  
3 being seeding to out-compete weed species with a cover  
4 crop or something. And that herbicide application may  
5 be necessary, but it's not the preferred option.

6 And as I outline these options for weed control,  
7 there's not a single choice that would universally be  
8 applied across the reservoir. This is -- this is a  
9 suite of options available depending on the -- what the  
10 sediment looks like and -- and can be applied  
11 adaptively as necessary to manage the conditions on the  
12 ground.

13 Q. So we're in midsummer, July 20, July 30; the reservoir  
14 is drained. Now, the proponent states that sediment  
15 will be moved around for drainage in preparation for  
16 the next flood. Will this work cause the sediment to  
17 become airborne?

18 A. MR. BRESCIA: Mr. Chairman, so I just -- one  
19 point of clarity is I think the sediment may be moved  
20 around if it affects drainage. I don't think there's  
21 the intent to -- to certainly go in and move sediment  
22 around post-flood.

23 Q. Is there a target depth for sediment during this  
24 redistribution?

25 A. MR. BRESCIA: One moment, Mr. Chairman.

09:59

09:59

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1 MR. SECORD: Mr. Chair, is it okay with you if  
2 we take our midmorning break? I wouldn't mind just  
3 taking a look at my notes. I know I'm approaching my  
4 end of my time, but I would just like to take a few  
5 minutes and make sure that I get the really important  
6 questions asked before I -- before the rug is pulled  
7 out from underneath me, sir, so...

8 THE CHAIR: No, that makes sense, Mr. Secord.  
9 So it's just a little bit after 10. Let's get  
10 back at 10:15 then and resume then. Thank you. 10:00

11 MR. SECORD: And we can pick up the --

12 THE CHAIR: Yes.

13 MR. SECORD: -- answer at that point. Thank  
14 you.

15 THE CHAIR: Yes, you bet.

16 (ADJOURNMENT)

17 THE CHAIR: Sorry, we were ready to go.  
18 10:15. We were just in our breakout rooms. I'm sorry,  
19 I had given no warning, but I think folks should be  
20 ready. Mr. Secord? Mr. Kruhlak? 10:14

21 MR. WIEBE: Was it 10:15 or 10:30 that you  
22 called?

23 MR. SECORD: Mr. Chair, how much time do I  
24 have?

25 THE CHAIR: I think it was right around

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1 20 minutes. 20 -- right around there, Mr. Secord, if I  
2 had it right. 20, 25 minutes.

3 MR. SECORD: Okay. I will endeavor to be done,  
4 sir.

5 THE CHAIR: Okay. The floor is yours.

6 Mr. Wiebe, if we could go to a regular screen share.

7 MR. WIEBE: Yes. Sorry, my apologies.

8 THE CHAIR: No, no problem. Thank you. And  
9 speaker view for some of you. Okay.

10 MR. WIEBE: We should be good. 10:15

11 THE CHAIR: And we could have maybe Mr. Secord  
12 and then whoever else is on for speaker view.

13 MR. WIEBE: Yes --

14 MR. SECORD: So do -- are we good to go?

15 THE CHAIR: Yes. Please proceed. We're good.

16 Q. MR. SECORD: So do I have an answer then?

17 A. MR. HEBERT: Sorry, Mr. Chairman. We're just  
18 directing traffic inside the Transportation witness  
19 room.

20 Mr. Wood will be in a position to provide an  
21 answer to Mr. Secord. 10:15

22 A. MR. WOOD: Thank you, Mr. Chairman, thank  
23 you, Mr. Hebert. And thank you, Mr. Secord, for your  
24 question.

25 I believe you were asking about the -- I

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 believe you -- if I can paraphrase, it was about the  
2 thickness of sediment that would -- the threshold at  
3 which we'd start to move it for positive drainage; is  
4 that correct.

5 Q. Yes.

6 A. MR. WOOD: Okay. So there's not a specific  
7 threshold or thickness of sediment as mentioned by my  
8 colleague, Mr. Brescia. Any sediment moved around  
9 would only be to achieve positive drainage.

10 So what this would look like is as drawdown is  
11 occurring, if there are undulations in the sediment  
12 that are trapping water, through the monitoring plan,  
13 this would be identified; and when trafficability is  
14 appropriate and at an appropriate time, a machine like  
15 an excavator or perhaps a loader may go in and almost  
16 surgically remove sediment that may be holding back  
17 that water from draining positively.

10:16

18 So it's not a mass earthworks exercise. It is  
19 somewhat surgical following the results of the  
20 monitoring of the drawdown.

10:17

21 Q. So, you know, I think we all remember the pictures from  
22 Mary Robinson's presentation and some of the exhibits  
23 that the SCLG filed in terms of the sediment that was  
24 distributed on her property.

25 I take it some of that was obviously, you know, a

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 metre or more in thickness. So what you're saying,  
2 Mr. Wood, is that in certain areas of the reservoir,  
3 that type of thickness would only -- that sediment  
4 would only be moved around to allow the reservoir to be  
5 able to drain fully. Do I understand that correctly?

6 **A. MR. WOOD:** Mr. Chairman, and perhaps I can  
7 request that the document controller bring up  
8 Exhibit 218 to help explain this a little bit.

9 **Q.** See, I'm really short of time, so if we could not do  
10 that, Mr. Wood, unless it's really necessary.

11 **A. MR. WOOD:** I believe it is necessary. The  
12 question was around the areas that are 1-metre depth or  
13 greater. And if I may request, it's page 85.

14 **MR. SECORD:** That was very quick, document  
15 host. Thank you.

16 **A. MR. WOOD:** Yes, thank you, document host. I  
17 apologize for bringing up so many exhibits today.

18 But the reason why I wanted to bring up this  
19 specific exhibit is that you can see the very dark grey  
20 shade in the legend for areas of sediment that are a  
21 metre thick. Those are limited to that one very small  
22 spot. As Mr. Brescia mentioned, it's, I believe,  
23 5 hectares, is what he said, in the middle of the  
24 reservoir.

25 And so, you know, as we're talking about removal

10:17

10:18

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 of sediment and depths and thickness, you know, it is  
2 anticipated that following a design flood and, again,  
3 under the late release scenario, there's very little  
4 sediment that is in excess of 1 metre thick.

5 Q. So do you move the sediment and silt that is stuck on  
6 the bushes and the trees? I mean, do you -- or do you  
7 just leave it there?

8 A. MR. BRESCIA: Mr. Chairman, this is  
9 Dave Brescia.

10 The intent is to move the sediment that is  
11 factoring into positive drainage of the reservoir.

12 Q. Yeah, I guess what I'm wondering about is when you have  
13 bushes and trees that get covered with sediment and  
14 then the flood recedes, you would have this fine  
15 material on the bushes and the trees. Does that get  
16 dealt with at all or is it just left to dry and blow in  
17 the wind?

18 A. MR. BRESCIA: One moment, Mr. Chairman.

19 Mr. Chairman, this is Dave Brescia. So the intent  
20 is not to remove sediment from specific trees and  
21 vegetation. I don't believe there would be substantive  
22 quantities of sediment attached to the vegetation that  
23 would be erodible.

24 Q. How is the tackifier being applied? Is it, you know,  
25 by hand, by air?

10:19

10:20

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1       A.   MR. BRESCIA:           Mr. Chairman, so the specific  
2       application method hasn't been determined. As I  
3       indicated, there are options available depending on the  
4       situation. Commonly, it's applied from trucks with  
5       tanks, but it can be applied in other manners  
6       via -- via hand or aurally.

7       Q.   And in relation to a design flood like we see here on  
8       Exhibit 218 at PDF page 85, what is the budget for  
9       tackifier to do erosion control so that my clients  
10      aren't exposed to excess air pollution?

10:21

11      A.   MR. BRESCIA:           One moment, please.

12      A.   MR. HEBERT:           So, Mr. Chairman, as addressed  
13      previously, this would be an operational cost that  
14      would be incurred at the time of the operation of the  
15      event subject to the size and the extent of the event.

16           I would add, Mr. Chairman, and this is not unusual  
17      in the scope of emergency response when these types of  
18      events occur, budgets are not typically set, bearing in  
19      mind that it's not possible to predict the scope, the  
20      nature, the extent of the response.

10:22

21           But certainly if a response occurred in relation  
22      to the need for tackifier for sediment management,  
23      certainly the government of Alberta would appropriate  
24      the funds required to undertake that work. That would  
25      be without any doubt.



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 Q. Now, is water being used at any point for the reseeding  
2 operations, growing vegetation, and where is the water  
3 coming -- if so, where is the water coming from and  
4 what is the budget for this?

5 A. MR. HEBERT: Mr. Chairman, I'll invite the  
6 appropriate person in a moment to respond to the  
7 sourcing question.

8 But in terms of the budget for a response  
9 operation, the answer I just provided in relation to  
10 the budgeting related to tackifiers applies in this  
11 case also.

12 And in terms of sourcing, my -- Mr. Brescia seems  
13 to be ready to respond.

14 A. MR. BRESCIA: Mr. Chairman, it's Dave Brescia.  
15 So the exact source hasn't been determined. We do  
16 appreciate that some may be required. One of the  
17 options is a temporary diversion licence from the  
18 Elbow River.

19 Q. Now, in relation to this map, Exhibit 218, PDF page 85,  
20 you'll notice depths of sediment in the 10 to  
21 100-centimetre area basically moving up the diversion  
22 channel. There are entities like Kamp Kiwanis and  
23 other camps in that area.

24 Can you tell me, would these camps be exposed to  
25 dust and sediment being blown from these large sediment

10:23

10:24

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 depositions that we see?

2 A. MR. BRESCIA: Mr. Chairman, if I could just  
3 clarify something. I think that grey shading that's in  
4 the diversion channel is actually the -- unfortunately,  
5 the same colour as the sediment depth. I believe it's  
6 intended to indicate the diversion channel itself.

7 A. MR. WOOD: And, Mr. Chair, if I may. Any  
8 materials deposited at the diversion structure are  
9 likely to be of a very coarse nature. We saw this in  
10 the 2013 flood all along the Elbow. A good analogy of  
11 what that area may look like is the braided extensive  
12 channel that are there right now.

10:25

13 So it is anticipated that the situation relative  
14 to the Kiwanis and folks around the Elbow River  
15 wouldn't be much different than the current conditions.

16 Perhaps my colleagues could comment further.

17 A. MR. BRESCIA: Mr. Chairman, all that I would add  
18 there -- it's Dave Brescia -- is that should that  
19 coarser sediment need to be managed, it would be  
20 managed as appropriate.

10:26

21 Q. Now, in Exhibit 159, page 231, Table 49, you don't need  
22 to pull it up, but you have annual operating costs of  
23 \$300,000.

24 However, the project appears to have no full-time  
25 staff; no cost for fire suppression operations; no

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 costs for testing and reporting requirements for water  
2 or air; no costs for wildlife surveys and reporting; no  
3 costs for security or emergency planning preparedness,  
4 including staff training, community liaison and  
5 administration of First Nations land use committee.

6 Do I have that right?

7 A. MR. SPELLER: Mr. Chairman, it's Wayne Speller.

8 So the engineering cost opinions do not include  
9 all of that information, and some of those costs aren't  
10 included, but I want to draw attention to the benefit  
11 costs analysis that was done. You don't have to pull  
12 this up, I'll just read it, but it's Exhibit 100, and  
13 I'm on PDF page 7 of 14. And I'll just read the second  
14 bullet from the bottom of that page and it says:

15 (as read)

16 "Operating and maintenance costs have  
17 been refined. The estimated annual  
18 operating costs for SR1 is \$975,000 with  
19 a \$12 million capital cost every ten  
20 years."

21 So those are additional costs to what you would see in a  
22 cost opinion that were included in the benefit cost  
23 analysis.

24 Q. All right. I'm going to use up my last 13 minutes with  
25 a series of conditions proposed by my clients. And,

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 Mr. Hebert, I think I'll give them over to you and then  
2 perhaps have you deal with them or take them away as  
3 you so choose.

4 Condition Number 1, the proponent shall commit to  
5 mitigate airborne dust within 24 hours of the issue or  
6 a complaint arising. Best practices for dust  
7 suppression should be applied, and the methods and  
8 effectiveness should be evaluated over time, dust  
9 suppression required at all times when dust could be  
10 expected to become airborne for the life of the project  
11 with the focuses on natural solutions, including  
12 reseeding and watering.

13 **A. MR. HEBERT: Just one moment, Mr. Chairman.**

14 So, Mr. Chairman, I want to assure the panel that  
15 Alberta Transportation is committed to managing the  
16 sediment and the impacts of those potential risks, but  
17 I think it would benefit Mr. Secord and his clients to  
18 receive a written response and Alberta Transportation  
19 will take it as an undertaking.

20 **UNDERTAKING - TO ADVISE IF AT WILL**  
21 **COMMIT TO MITIGATE AIRBORNE DUST WITHIN**  
22 **24 HOURS OF THE ISSUE OR A COMPLAINT**  
23 **ARISING (SEE TRANSCRIPT FOR FURTHER**  
24 **DESCRIPTION)**

25 **Q. MR. SECORD: And just going back to Mr. Speller**

10:28

10:29

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 and your reference to the cost benefit analysis. Can  
2 you tell me how those costs in the benefit cost relate  
3 to Exhibit 159, Table 49, page 231? Is this not the  
4 same cost, just on an annualized basis?

5 **A. MR. SPELLER: Could you provide the PDF**  
6 **page number again?**

7 **Q. Sure. That's PDF page 231.**

8 So the costs that you were talking about, are  
9 those not the same costs?

10 Maybe while you're thinking about that, I'll go  
11 back to Mr. Hebert.

12 **A. MR. SPELLER: Yes.**

13 **Q. The next condition is, we request that a condition on**  
14 **insects be applied to the post-flood operations. We**  
15 **request a baseline monitoring to measure increases in**  
16 **insect activity. And we also request that the**  
17 **regulators direct the proponent to develop mitigation**  
18 **plans for increased insect activity.**

19 I'm thinking, particularly, mosquitos, potential  
20 for West Nile virus, and that sort of thing?

21 **A. MR. HEBERT: Mr. Chairman, I think it would be**  
22 **appropriate to add that to the undertaking.**

23 **UNDERTAKING - TO ADVISE IF AT WILL**  
24 **COMMIT TO BASELINE MONITORING TO**  
25 **MEASURE INCREASES IN INSECT ACTIVITY**

10:30

10:31

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1                   **AND DEVELOP A MITIGATION PLAN FOR SAME**

2       Q.   MR. SECORD:                The next condition is the project  
3       operator or proposed independent authority shall work  
4       with local residents in Rocky View County to monitor  
5       air quality with live readings at locations identified  
6       by the Springbank community, including but not limited  
7       to, Range Road 33 near Springbank High School and  
8       Soccer Park; Elbow Valley Elementary School, and  
9       Highway 8 areas.

10               Earlier, Mr. Hebert, you stated there would be  
11       monitoring to the east. My clients do not find that to  
12       be acceptable. They would like to see air quality  
13       around the project monitored for as far as the dust can  
14       travel, and the wind, of course, can change direction  
15       at any time.

16               Any air quality monitoring program would be at the  
17       proponent's expense and will include an allowance for  
18       handheld monitors supplied to residents who require  
19       them.

20               Any monitoring that identifies an issue with air  
21       quality should generate immediate action by the  
22       proponent/operator, and the mechanisms for this and  
23       actions and timelines to be taken by the operator must  
24       be clearly outlined.

25               And just as a general background, I know in some

10:31

10:32

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 of the cases I've been involved in, in some areas there  
2 are stations where you can actually go onto a website  
3 and see what the air quality is like, you know, in real  
4 time.

5 So that would be the -- I know that's quite a bit  
6 of a -- it's a fairly lengthy condition.

7 **A. MR. HEBERT:** Thank you, Mr. Secord.

8 Mr. Chairman, members of the Panel, you know, as I  
9 said in my remarks yesterday, Alberta Transportation is  
10 very sensitive to the concerns of the community  
11 relating to the potential impacts of dust due to  
12 sediment deposition in the project area.

13 My statement yesterday included a commitment  
14 relative to air monitoring post-flood. We certainly  
15 hear the concerns and expectations of the community  
16 relative to the appropriate level of monitoring.

17 While I'm not prepared in this exact moment to  
18 confirm, you know, the volume or the extent to what  
19 Transportation is prepared to consider, I can advise  
20 the Board that Alberta Transportation is open to  
21 additional monitoring stations as reflecting any sort  
22 of appropriate scientific advice, and, believe, through  
23 my statement yesterday, made certain commitments  
24 relative to sediment management, both monitoring,  
25 surveying and response.

10:33

10:33

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1           While it does not constitute in its entirety a  
2 sediment management plan, Alberta Transportation is  
3 prepared to consider making an appropriate plan under  
4 the -- any sort of regulatory guidance, but I believe,  
5 in this case, it would be appropriate if Alberta  
6 Transportation confirm and conclude this in a written  
7 response as part of an undertaking.

8           **UNDERTAKING - TO CONFIRM THAT THE**  
9           **PROJECT OPERATOR OR PROPOSED**  
10           **INDEPENDENT AUTHORITY WILL WORK WITH**  
11           **LOCAL RESIDENTS IN ROCKY VIEW COUNTY TO**  
12           **MONITOR AIR QUALITY WITH LIVE READINGS**  
13           **AT LOCATIONS IDENTIFIED BY THE**  
14           **SPRINGBANK COMMUNITY, INCLUDING BUT NOT**  
15           **LIMITED TO, RANGE ROAD 33 NEAR**  
16           **SPRINGBANK HIGH SCHOOL AND SOCCER PARK;**  
17           **ELBOW VALLEY ELEMENTARY SCHOOL, AND**  
18           **HIGHWAY 8 AREAS (SEE TRANSCRIPT FOR**  
19           **FURTHER DESCRIPTION)**

20       Q.   MR. SECORD:           The next condition would be the  
21           proponent shall create a mechanism to notify cyclists  
22           of reservoir operations that impact Springbank Road and  
23           air quality warnings. Cyclists access Springbank Road  
24           and Highway 22 through a variety of paths. So there  
25           should be some thought given to how cyclists might be

10:31

10:34



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 warned about adverse air quality.

2 A. MR. HEBERT: Mr. Chairman, I believe it would  
3 be appropriate to add that response to the undertaking.

4 UNDERTAKING - FOR THE PROPONENT TO  
5 ADVISE IF IT WILL CREATE A MECHANISM TO  
6 NOTIFY CYCLISTS OF RESERVOIR OPERATIONS  
7 THAT IMPACT SPRINGBANK ROAD AND AIR  
8 QUALITY WARNINGS (SEE TRANSCRIPT FOR  
9 FURTHER DESCRIPTION)

10 Q. MR. SECORD: And in the event of dust  
11 storms -- sorry, let me start that over again.

12 I think I've covered that.

13 Okay. And I think there were a few conditions  
14 yesterday that Ms. Ifeoma Okoye did not get to so I  
15 would like to put those to you, Mr. Hebert, as well.

16 The proponent shall include as a condition of  
17 approval an elk monitoring and management plan that  
18 engages local landowners.

19 A. MR. HEBERT: Mr. Chairman, I believe Mr. Secord  
20 said "elk"?

21 Q. "Elk," yes.

22 A. MR. HEBERT: Elk. Sorry, my -- I think it's  
23 just a consequence of nine days in very dry rooms.

24 Mr. Chairman, I believe any concerns related to  
25 elk would be captured within the wildlife mitigation

10:35

10:36

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 and monitoring plan that's been proposed by Alberta  
2 Transportation. I don't have it in front of me.

3 I'm almost certain it would include elk, and I'm  
4 next to certain that it includes commitments relative  
5 to engagement with local stakeholders.

6 So I -- while I would not accept the undertaking,  
7 I'm next to positive that elk is considered within that  
8 mitigation plan.

9 UNDERTAKING - TO ADVISE IF AT WILL AS A  
10 CONDITION OF APPROVAL INCLUDE AN ELK  
11 MONITORING AND MANAGEMENT PLAN THAT  
12 ENGAGES LOCAL LANDOWNER - REFUSED

10:37

13 Q. MR. SECORD: Condition 2 is the proponent shall  
14 perform baseline quantitative biodiversity surveys,  
15 inventories, and analysis of the SR1 lands on wildlife,  
16 birds, plants, waterbodies, springs, wetlands, and  
17 soil.

18 Where appropriate, this information shall be  
19 collected for a full-year cycle. The proponent shall  
20 report annual changes from the baseline in its annual  
21 reporting for SR1.

10:37

22 A. MR. HEBERT: Mr. Chairman, members of my panel  
23 are signalling my attention. Just one moment. I now  
24 understand why my panel members were grabbing my  
25 attention. I'm advised this was presented as an

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1           undertaking yesterday and that we provided --

2       Q.   Okay.

3       A.   MR. HERBERT:           -- certain conditions relative to  
4       it.

5       Q.   Okay. Thank you. And the proponent shall retain an  
6       expert on toxicology to determine the impacts of the  
7       post-flood sediment and water quality -- and floodwater  
8       quality considering the mortality of wildlife and  
9       plants within the reservoir.

10      A.   MR. HEBERT:           Just one moment, Mr. Chairman.

10:38

11      MR. SECORD:               Mr. Chair, I just have three left  
12      just to give you a heads up where I am. So we're  
13      almost there.

14      THE CHAIR:                Thank you, Mr. Secord.

15      A.   MR. HEBERT:           Mr. Chairman, Transportation has  
16      made commitments relative to the sampling of water  
17      within the reservoir, we've made commitments relative  
18      to soil sampling.

19                Just drawing a blank at the moment on the  
20      reporting of results, so I would undertake to provide a  
21      written response relative to the sharing of those  
22      results.

10:40

23                    UNDERTAKING - TO ADVISE IF AT WILL  
24                    RETAIN AN EXPERT ON TOXICOLOGY TO  
25                    DETERMINE THE IMPACTS OF THE POST-FLOOD

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1                   **SEDIMENT AND FLOODWATER QUALITY**  
2                   **CONSIDERING THE MORTALITY OF WILDLIFE**  
3                   **AND PLANTS WITHIN THE RESERVOIR AND/OR**  
4                   **PROVIDE A WRITTEN RESPONSE RELATIVE TO**  
5                   **THE SHARING OF THOSE RESULTS**  
6                   **(SEE TRANSCRIPT)**

7       Q.   MR. SECORD:                   And then on wildlife rescue, would  
8       AT accept a condition that in a flood year, there shall  
9       be a complete report on the success of wildlife rescue  
10      operations from the project area: fish, bird, and                   10:40  
11      amphibians; reporting on the mortality during rescue  
12      and transport; and then details of the rescue effort:  
13      man hours, working conditions, resources, timelines  
14      required, cost, success?

15      A.   MR. HEBERT:                   Mr. Chairman, the items raised  
16      would be addressed within the wildlife monitoring plan.  
17      It appears as though a number of the items raised by  
18      counsel would be captured as part of reporting under  
19      the federal approval, but certainly having heard the  
20      feedback, we'll ensure that it's considered within the                   10:41  
21      final wildlife mitigation and monitoring plan.

22      Q.   And then penultimate condition: The proponent shall  
23      include representatives of the west Rocky View  
24      communities when preparing a construction traffic plan.  
25      The community requests the construction vehicles not

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 use local roads, especially considering the significant  
2 summer traffic to Bragg Creek, cyclists, and the use of  
3 local roads by school buses.

4 **A. MR. HEBERT:** So, Mr. Chairman, as we've  
5 previously committed, Alberta Transportation would be  
6 working with the local authority, in this case,  
7 Rocky View County, relative to the traffic management  
8 plan for the project.

9 Certainly, if there's feedback from locally  
10 impacted residents, Transportation would be open to  
11 that feedback.

12 But I just would like to assure the Panel, Alberta  
13 Transportation, as part of its core business, is  
14 involved in multiple road, bridge construction  
15 activities, has the appropriate plans in place to  
16 manage the impacts relative to traffic.

17 But, certainly, as part of the efforts in  
18 finalizing the plan with the local authority and  
19 certainly our commitment to engage local residents, we  
20 would not be opposed to receiving views on any  
21 particular concerns.

22 **UNDERTAKING - (SEE TRANSCRIPT)**

23 **Q. MR. SECORD:** Thank you, Mr. Hebert.

24 And then to wrap up, Mr. Speller, over to you.

25 I had asked you about how those costs and the

10:42

10:43

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Secord

1 benefit costs related to Exhibit 159, Table 49, PDF  
2 page 231. Is this not the same cost, just on an  
3 annualized basis?

4 A. MR. SPELLER: Mr. Chairman, I was just -- I was  
5 looking at those as we were going through those  
6 conditions, and I don't believe they are, but I'm  
7 mindful of the time, so --

8 THE CHAIR: Are you prepared to respond now,  
9 or did that need to be an undertaking?

10 A. MR. SPELLER: I would -- if it's okay, I would  
11 do it as an undertaking to respond, just to keep things  
12 moving along.

13 A. MR. HEBERT: We will take it as an undertaking,  
14 Mr. Secord and Mr. Chairman.

15 UNDERTAKING - TO PROVIDE AN ANSWER TO  
16 THE QUESTION: "HOW THOSE COSTS AND THE  
17 BENEFIT COSTS RELATED TO EXHIBIT 159,  
18 TABLE 49, PDF PAGE 231. IS THIS NOT  
19 THE SAME COST, JUST ON AN ANNUALIZED  
20 BASIS"

21 MR. SECORD: And thank you, panel, for your  
22 responses to me today and, Mr. Chair, for giving me a  
23 few extra minutes. I really appreciate it. My clients  
24 really appreciate it. Thank you.

25 THE CHAIR: You're welcome, Mr. Secord.

10:43

10:43

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1           Okay, thank you, Mr. Secord, and SCLG.

2           Mr. Williams, are you online, and do you have any  
3           questions for the panel, witness panel?

4   MR. WILLIAMS:                Yes, I do. All right. Can you  
5           hear me?

6   THE CHAIR:                    Yeah, a little soft, but yes. And  
7           you're on screen, so please proceed.

8   MR. WILLIAMS:                Is that better?

9   THE CHAIR:                    Still a little soft. You were a  
10          bit louder yesterday, but if you would just raise your  
11          voice a bit, please.

12   MR. WILLIAMS:                Okay, yeah, can you hear me now?

13   THE CHAIR:                    It's a bit better when you're a  
14          little closer. Thank you.

15   MR. WILLIAMS:                Yes, okay.

16   MR. WILLIAMS CROSS-EXAMINES THE PANEL:

17   Q. Okay. So thank you for the opportunity, Mr. Chairman,  
18          and to the Board for asking these questions or cross  
19          questions.

20                Please hear I'm not an expert in this area, so  
21          please bear with me on some of the technical  
22          information that has been brought forward.

23                My first question is, and I'll just -- for AT, I'm  
24          not sure who would respond to this, but yesterday there  
25          was several different measurements given as a -- as a

10:44

10:44

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1 standard.

2 I'm asking the question, what's the minimum  
3 standard for health for humans, livestock, and other  
4 animals when it comes to air quality? For safety  
5 health. What's the -- is it .705 mass ratio of a  
6 micron, or what is that benchmark standard for minimum  
7 safety for health?

8 A. MR. HEBERT: Mr. Chairman, I'd invite the  
9 appropriate member of the panel to provide that  
10 response, which is Tania Noble.

10:45

11 A. MS. NOBLE: So, first of all, the standard  
12 that we're using is the Canadian Ambient Air Quality  
13 Standard for PM 2.5 for 24 hours of 27 micrograms per  
14 cubic metre.

15 Q. Excellent. Okay, thank you.

16 A. MS. NOBLE: Okay.

17 Q. And is that the same when we use the term "fugitive  
18 dust"?

19 A. MS. NOBLE: Yes. So fugitive dust refers to  
20 the full range of particulate matter, and so the terms  
21 you would have heard us using are "total suspended  
22 particulate," "TSP," and particulate matter 2.5, which  
23 is the smaller range of particulate matter.

10:46

24 That is -- the smaller range, the PM 2.5, is the  
25 one that we look at for health effects.



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1 Q. Okay. And is that the same for ambient air?

2 A. MS. NOBLE: Yes, it is. So when we say  
3 "PM 2.5," what we're referring to is the concentration  
4 of particulate matter in ambient air. Simply the air  
5 outside that you would be breathing.

6 Q. And is there a distance that ambient air or fugitive  
7 dust travels and then it dissipates? Is there any  
8 distances that once it travels, let's say, 1 kilometre,  
9 it dissipates to zero or back to the safe standard?

10 A. MS. NOBLE: So, first of all, there was a  
11 presentation yesterday that Peter Reid (verbatim) gave,  
12 and he provided images that illustrated the extent of  
13 particulate matter, and I can refer you to him. He can  
14 show you those ranges.

10:47

15 At a high level, yes. As we move away from the  
16 source of the fugitive dust, as characterized by the  
17 concentration of particulate matter, the concentrations  
18 decrease. And perhaps I'll --

19 Q. Is there, like, a -- because we don't need to go in,  
20 for sake of time, through those schedules, but is it  
21 1 kilometre, 2 kilometre? Is there something, like,  
22 general that way or not really?

10:48

23 A. MS. NOBLE: Those --

24 A. MR. PERSON: Mr. Williams, when we say  
25 "fugitive dust," that's what -- we talk about that's

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1 the "source." And then we -- we predict transport and  
2 dispersion and removal of particulate matter from the  
3 air.

4 And so the particulate matter consists of large  
5 particles and small particles, and the larger particles  
6 tend to deposit fairly quickly due to gravitational  
7 settling. And the smaller particles have a much higher  
8 potential to stay airborne.

9 As the -- so there's two factors that go on here.  
10 One is the transport and dispersion, which allows -- or  
11 which concentrations decrease with mixing and distance. 10:48  
12 And secondly, is the removal processes as vegetation  
13 due to deposition on the ground as well as some of the  
14 removal processes affected by things like vegetation  
15 and trees. And so those factors all together are  
16 reflected in our model predictions.

17 And so at -- you know, as you get several  
18 kilometres away from the source, the concentrations  
19 typically will be right back down to near background  
20 levels. 10:49

21 THE CHAIR: And, excuse me, who is speaking  
22 there, please.

23 A. MR. PERSON: Sorry, this is Mr. Person.

24 THE CHAIR: Thank you.

25 Q. MR. WILLIAMS: Okay. So that -- yeah, I

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1 understand that. So if for whatever reason it didn't  
2 meet the minimum standard for health for humans, what  
3 would the project do? What would be the immediate  
4 action by the project to get it back into a, say,  
5 standard -- obviously, it would be mitigating actions,  
6 but what -- would pausing the construction of the  
7 project be one of those actions?

8 So if you had air quality...

9 THE CHAIR: Mr. Williams?

10 MR. WILLIAMS: Yes. Yeah, I'm waiting. They're  
11 breaking. They're caucusing right now.

12 THE CHAIR: Oh, I'm sorry.

13 A. MR. SVENSON: So, Mr. Chair, this is  
14 Mark Svenson. So I'll start out to answer your  
15 question, Mr. Williams. I'm not sure I caught the last  
16 bit as we were conferring.

17 So, yes, there are -- during construction, there  
18 are things that can be done to limit that -- the  
19 generation of dust, and one that you mentioned is the  
20 suspension of any activities, so -- or those activities  
21 that could generate dust. So the excavation, that sort  
22 of thing.

23 So what we have committed to do during  
24 construction and dry operations, we have committed to  
25 monitoring, so monitoring stations. There's three that

10:50

10:51

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1 we've identified that would look at the total suspended  
2 particulates, the TSP, and the PM 2.5, as well as  
3 meteorological data stations at locations along the  
4 boundary of the project area.

5 One additional continuous monitor for NO2 and  
6 PM 2.5, that station representing residents or  
7 communities, so outside of the project area. And then  
8 another continuous PM 2.5 monitor at Calaway Park, as  
9 has been discussed earlier in this -- the hearing and  
10 with you along with that.

10:52

11 So there's visual inspections as well as part of  
12 that construction. So if -- if it is noticed that  
13 excessive dust is being generated, then those  
14 activities will be halted that are generating that dust  
15 until such time that mitigations can be put in place,  
16 so watering of the road. So watering can -- so I'm  
17 thinking of the haul roads, the roads that the trucks  
18 run back and forth on. They can limit that dust  
19 generation.

20 So those activities would be suspended until  
21 that -- until those dust-generating pieces can be  
22 mitigated and brought back under control.

10:52

23 Q. Okay. In the modelling that was done for the dust and  
24 the wind, were chinook winds taken into consideration  
25 in the modelling? Because, obviously, we -- and we

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1 experience that all the time, the chinook winds where  
2 we are. Was that taken into consideration in the  
3 modelling.

4 A. MR. PERSON: Mr. Williams, this is Reid Person.

5 The way these transport and dispersion models work  
6 is we have to follow regulatory guidance which we call  
7 the Alberta Environment and Parks Air Quality Model  
8 Guideline. And there they direct you to use a long  
9 enough period of meteorological data to account for the  
10 sufficient number of combinations of wind speed, wind  
11 direction and temperatures that you're confident you've  
12 identified the worst-case or -- appropriate worst-case  
13 conditions for simulating effects on air quality.

10:53

14 And to this end, they've recommended, for this  
15 type of assessment, that we actually model five years  
16 of meteorological data. And to put that into context,  
17 we've looked at a little more than 43,000 hours of  
18 different meteorological conditions, and many of those  
19 do include high-wind speed events or high-wind speed  
20 conditions representative of chinook conditions.

10:54

21 Q. We just experienced a lot of wind lately, so I just  
22 wanted to bring that up.

23 Has Alberta Transportation had any other  
24 construction project in recent years where you can talk  
25 where you've had to employ, shut down a project or

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1 employ mitigation that you can, as a case -- as an  
2 experience that the community could understand where  
3 you've got a project going, you've got a dust problem,  
4 is there anything that comes recently that you can  
5 express or share an opinion on?

6 A. MR. SVENSON: Mr. Chair -- thanks for that  
7 question, Mr. Williams.

8 Absolutely, yes. Alberta Transportation -- like,  
9 this is nothing new for Alberta Transportation. We  
10 successfully incorporated things like sediment and  
11 erosion control, vegetation regrowth, weed management,  
12 we've incorporated these things into all of our  
13 projects and maintenance activities for decades.

10:55

14 While we may not have had a project exactly like  
15 this, exactly like the SR1 project, we have  
16 successfully managed different types and forms of  
17 sediment throughout the province at different scales  
18 varying from really small projects or maintenance  
19 activities to extremely large projects and activities  
20 that include hundreds of kilometres of open ground.

10:56

21 So each project is unique and some have  
22 challenging conditions. While that's the case, the  
23 strategies that are employed in all of these are -- are  
24 very much similar.

25 So recent -- I guess recent projects that you may

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1 be familiar with, there are sediment and monitoring and  
2 mitigation pieces that go into the Calgary Ring Road  
3 operation, specifically the -- where did I have that,  
4 give me one second -- so South Stoney Trail over the  
5 Bow River as well as the West Calgary Ring Road  
6 projects, they all utilize different aspects of  
7 sediment management, dust management, including  
8 watering tackifiers, track walking, interim seeding.  
9 So that's another one. If sediment -- or if a soil  
10 pile is going to be exposed for a longer period, you  
11 can seed it so it keeps that dust down; straw rolls,  
12 energy dissipation techniques, silt fences, wattles.  
13 These are all items that can be used that are in the  
14 toolbox that can be pulled out, used at any one project  
15 for sure.

10:57

16 Q. Okay.

17 A. MR. SVENSON: And have you --

18 COURT REPORTER: Excuse me, can I ask who was  
19 speaking?

20 A. MR. SVENSON: Sorry, that was Mark Svenson.

10:57

21 THE CHAIR: Please, folks, if you can, if  
22 you're not on the panel live screen, it's difficult for  
23 the court reporter. So just identify yourself. Thank  
24 you very much.

25 Q. MR. WILLIAMS: Thank you for the answer to that

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1 question.

2 The next one is, have you -- when you look  
3 at -- when we analyze the situation and we think of the  
4 dust potential that might impact our business, in  
5 talking to our insurers over the last few years about  
6 business interruption loss, our concerns -- what  
7 happens is -- business interruption loss only comes  
8 into play when the perils match something to our  
9 property or equipment breakdown, and that's when it  
10 kicks in.

10:58

11 Whenever we have an event -- and it came up with  
12 the smoke, business interruption loss, you cannot  
13 get -- the insurer will not pay you for forest fire  
14 smoke.

15 And so, in this case, because the project is  
16 manmade and it's in construction, if we are closed for  
17 a day due to ambient air or air quality, we would --  
18 our insurer would not cover us for business  
19 interruption loss because this is a construction  
20 project.

10:58

21 So my question is, will Alberta Transportation,  
22 Alberta Environment carry an insurance policy for  
23 business interruption loss for stakeholders close by,  
24 and if so, can Calaway Park/Calalta Waterworks be named  
25 in that policy if there was a -- if we, for some



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Williams

1 reason, caused the damage for the construction and  
2 post-construction of the dust air quality? Anyone from  
3 the AT.

4 MR. KRUHLAK: Mr. Chairman, it's Ron Kruhlak.

5 I guess I would first just comment. I'm not sure  
6 anybody on the panel can speak to what liability  
7 coverage the province of Alberta carries on its  
8 activities.

9 Perhaps, Mr. Williams, we would just simply  
10 undertake to provide you with a response.

11:00

11 MR. WILLIAMS: That would be -- that would be  
12 fine.

13 **UNDERTAKING - TO ADVISE IF AT/AE WILL**  
14 **CARRY AN INSURANCE POLICY FOR BUSINESS**  
15 **INTERRUPTION LOSS FOR STAKEHOLDERS**  
16 **CLOSE BY; IF SO, CAN CALAWAY**  
17 **PARK/CALALTA WATERWORKS BE NAMED IN**  
18 **THAT POLICY**

19 Q. MR. WILLIAMS: I guess just in closing and,  
20 Mr. Chairman, in essence of my time, I'll just say that  
21 we've had good dialogue on this topic area with  
22 Mr. Hebert, and we just would want to ensure that the  
23 condition of approval is that the final mitigation  
24 points that we're working on be ironed out prior to the  
25 project starting construction, that we would just ask

11:00

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Wagner

1           that the Board undertakes that, to employ that as a  
2           condition of approval.

3           And that would be all I have at this point.

4       THE CHAIR:                   Thank you, Mr. Williams. Thank  
5           you very much, and thanks, panel.

6           Mr. Wagner, are you online and did you have any  
7           questions of the Alberta Transportation witness panel?

8       MR. WAGNER:                 I am online, Mr. Chair, and I can  
9           ask my questions.

10       THE CHAIR:                 Please proceed.

11:01

11       MR. WAGNER CROSS-EXAMINES THE PANEL:

12       Q.   Can I get document manager to bring up two documents.  
13           Document Number 371, which would be a PowerPoint  
14           presentation, and Document 325.

15           It appears as though my screen is frozen again,  
16           Mr. Chair, so should I maybe --

17       THE CHAIR:                 That's fine. I don't think  
18           it -- it's fine the way it is, Mr. Wagner. You can  
19           just proceed. Your audio is coming through clearly.  
20           Thank you.

11:01

21       MR. WAGNER:                 Thank you. If it does change, I  
22           am in the country, as I mentioned before, so if quality  
23           dips, please let me know.

24       THE CHAIR:                 Mr. Wagner, are you ready to ask  
25           your first question?

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Wagner

1 Q. MR. WAGNER: Yes, I'm ready to go, and all my  
2 questions relate to wildlife, just to give AT a  
3 heads-up. And I'd like to bring up Slide Number 20 on  
4 Document Number 371.

5 Does AT recognize this billboard which was shown  
6 at the open house in Springbank in 2018?

7 A. MR. TERRY: Mr. Chairman, Eliot Terry. Yes,  
8 we do.

9 Q. So I'd like to bring up Document 325, page Number 62,  
10 paragraph 218.

11:03

11 THE CHAIR: What is it once again, Mr. Wagner?  
12 That was Exhibit --

13 MR. WAGNER: It's Exhibit Number 325. I  
14 believe it's page 62.

15 THE CHAIR: That's PDF page 62? Thank you.

16 Q. MR. WAGNER: Page 62, please. And just scroll  
17 down a bit to 218. That is not the -- oh, sorry. It's  
18 217. Paragraph 217, the AT, if I can just paraphrase,  
19 they recognize that the wildlife suitability habitat is  
20 a higher sustainability.

11:04

21 My question is, is this a new position for AT as  
22 opposed to the billboard which I showed prior?

23 A. MR. TERRY: Mr. Chairman, Eliot Terry.

24 So I think the best way to clarify or answer  
25 Mr. Wagner's question is to bring up the elk

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Wagner

1           suitability maps that were on the storyboard presented  
2           at the open house. So if I could call up Exhibit 32,  
3           PDF page 39.

4           MS. FRIEND:                    This is Laura. We don't have  
5           Exhibit 32 pre-loaded -- oh, maybe she's got it. There  
6           we go.

7           A.   MR. TERRY:                Very good. Thank you.

8                    Okay. So I believe what Mr. Wagner is referring  
9           to in terms of the -- one of the points that was made  
10          on that storyboard at the open house, and it was  
11          focusing on the area that would be permanently lost due  
12          to the project's structure, so that's the diversion  
13          channel and the dam itself.

11:05

14                   And so I think, unfortunately, what that bullet  
15          did was sort of cast that the whole Springbank local  
16          assessment area was very low quality habitat for elk,  
17          and that wasn't certainly the intent.

18                   You can see from this figure here -- maybe I'll  
19          just back up to explain what you're seeing.

20                   So this is the habitat suitability maps that were  
21          used to conduct the wildlife assessment. These maps  
22          are representative of a widely used and common  
23          habitat-based approach to determine project effects.  
24          And what you're seeing here is basically categories of  
25          relative value, so the red polygons are high, the

11:06

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Wagner

1 orange are moderate, and then the yellow are low.  
2 These are relative values that are trying to describe  
3 the expected use of the area by elk.

4 They don't try to predict numbers. They're  
5 basically a relative ranking of where we would expect  
6 to see elk.

7 So if we could actually zoom in to the northwest  
8 corner of the reservoir where Mr. Wagner's property is.  
9 So that's fine.

10 So you can see here again, in Mr. Wagner's quarter  
11 sections, there is an abundant supply of both high,  
12 moderate and low suitability habitat on his property.

13 THE CHAIR: Excuse me, excuse me, Mr. Terry.  
14 I wonder if you could just highlight where you're  
15 talking about on this map as Mr. Wagner's property,  
16 just for the transcript.

17 A. MR. TERRY: Yes, sorry.

18 THE CHAIR: Thank you.

19 A. MR. TERRY: So it would be west of Highway 22  
20 in the northwest corner where we were previously  
21 talking about. The fingers of the PDA.

22 Q. MR. WAGNER: There we go, Mr. Terry. I think  
23 everybody is referring to it as the fingers.

24 A. MR. TERRY: Right, sorry. So, again, the  
25 point is that -- and, of course, all of this is

11:07

11:08

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Wagner

1 described in the metrics in Exhibit 32 in terms of the  
2 areas that are affected, and so it's not just low  
3 suitability elk habitat. There is -- obviously if you  
4 look at the diagonal purple lines in the figure, those  
5 are part of the construction footprint, they're  
6 temporary workspaces that will be reclaimed, but they  
7 will affect high and moderate and low elk habitat. So  
8 I think that's really the only clarification that  
9 Alberta Transportation would like to make.

10 It's -- the area isn't all low elk suitability  
11 habitats. I think when you look at the map closely and  
12 then you combine it with the remote camera program that  
13 was completed over a full year and we determined that  
14 elk were the second most abundant species observed on  
15 our cameras, and, in fact, eight out of the ten cameras  
16 are 80 percent, I think we would be all in agreement  
17 that elk are relatively abundant in the Springbank  
18 local assessment area.

19 Q. Just as a follow-up question of this, there's large  
20 sections of the dam footprint here that have no  
21 colouring on them.

22 Does that correspond to AT's understanding that  
23 those are not suitable?

24 A. MR. TERRY: Right.

25 Q. [Indiscernible]

11:08

11:09

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Wagner

1       A.   MR. TERRY:                    Yeah, good question, Mr. Wagner.

2                So the grey areas, what you're looking at there,  
3                is largely the effect of the assumption in the model  
4                about animals, in this case, elk, avoiding roads. And  
5                so when you put some of the disturbance buffers on  
6                Highway 22, Highway 1, and even the township roads,  
7                your township road buffers were smaller.

8                But because the area is heavily roaded, you  
9                basically get a merging of all the setback buffers, and  
10               that starts to produce a lot of these grey areas.

11:10

11               So, again, it's not habitat. The model is  
12               predicting, relative to the other feeding patches that  
13               you would expect to see elk, they're going to be  
14               farther away from the road -- I've just been told to  
15               slow down -- so it's not -- again, it's not that we  
16               wouldn't see elk in the grey areas, it's just relative  
17               to the other categories, they would be less likely to  
18               occur compared to the red and orange areas.

19       Q.   Move on. In 2016, between seven and nine grizzly bears  
20               were spotted within the SR1 area. Does AT recognize  
21               this population?

11:11

22       A.   MR. TERRY:                    Mr. Chairman, Eliot Terry.

23                Yes, Mr. Wagner, we do. The assessment focused on  
24                grizzly bears as well, and we also provided suitability  
25                maps for grizzly bears. Again, we don't try to predict

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Wagner

1 the numbers of bears. We assess their quality of their  
2 habitat. And for context, we recognize grizzly bears  
3 do occur. We also detected them in our remote  
4 monitoring program.

5 But it's important to probably point out too that,  
6 you know, the Springbank lands just west of Highway 22  
7 occur in the grizzly bear support zone, which is  
8 identified in the provincial grizzly bear recovery  
9 plan. And the bears that were seen in Springbank,  
10 again, following the recovery plan zones, the support  
11 zones are really designed to help manage grizzly bears  
12 that typically have been living mostly in the recovery  
13 zone, which is west of the Springbank study area, that  
14 have home ranges that do overlap into some of the  
15 private agricultural and ranchlands on the east slopes.

11:12

16 So, again, there -- recognized that there are  
17 bears that occur, and, of course, there will be  
18 management during the project to deal with bears.

19 Q. Thank you for that answer. Does AT recognize the link  
20 between grizzly bears and the primary food supply of  
21 elk calves?

11:12

22 A. MR. TERRY: Yes. We're aware that grizzly  
23 bears do prey on elk calves.

24 Q. I have a condition that I'd like to bring forward.

25 As a condition of approval, in the interest of



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Cross-examined by Mr. Wagner

1 human safety and wildlife security, would AT consider  
2 making the SR1 footprint a no hunting area?

3 A. MR. HEBERT: Thank you, Mr. Wagner. And,  
4 Mr. Chairman, as we indicated previously, the land use  
5 principles proposed for the project contemplate that  
6 individuals could practice Treaty rights, which include  
7 hunting, so I believe we're not in a position to accept  
8 that condition.

9 But I would note that in the management of spaces  
10 and wildlife in the province, that there are  
11 conservation objectives that have to be met, and that's  
12 certainly at the forefront of the work that Alberta  
13 Environment and Parks does relative to their  
14 responsibilities as it pertains to wildlife management.

15 So I would submit to the Panel that considerations  
16 relative to the extent of hunting are best addressed  
17 through the conservation practices that are employed by  
18 Alberta Environment and Parks.

19 UNDERTAKING - WOULD AT CONSIDER MAKING  
20 THE SR1 FOOTPRINT A NO HUNTING AREA -  
21 REFUSED

22 MR. WAGNER: I have no further questions,  
23 Mr. Chair.

24 THE CHAIR: Thank you, Mr. Wagner.

25 So, witness panel, I do believe we have questions

11:13

11:13

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Ms. Vance

1 from Board counsel and staff.

2 Ms. Vance, do you have any questions?

3 MS. VANCE: Thank you, Mr. Chair, I do.

4 **MS. VANCE QUESTIONS THE PANEL:**

5 Q. They're a little scattered because this topic  
6 encompasses so many different aspects.

7 So I'll start with my wildlife question, which may  
8 or may not be for Dr. Terry.

9 So I'm thinking about the underpass for wildlife  
10 under Highway 22. This came up a little bit yesterday. 11:15  
11 This is a brand new underpass, I understand. And I  
12 understand that part of the remote camera monitoring  
13 will include monitoring that underpass. You know, I  
14 think the goal, correct me if I'm wrong, is to just see  
15 how it's being used; right?

16 And so my question comes because there is no  
17 current underpass. I guess the first part of my  
18 question is, you know, is there a baseline to compare  
19 the camera monitoring to?

20 A. MR. TERRY: Thank you. That's a good  
21 question. 11:16

22 So we do have baseline work in terms of the  
23 distribution of cameras in the local assessment area.  
24 We don't have a camera right at that specific point in  
25 time at the moment, but ideally we would be putting

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Ms. Vance

1           those up prior to construction and getting as much  
2           pre-construction data as possible.

3       Q.   So I guess the question is, how do you assess whether  
4           this underpass is effective if you -- you know, it's a  
5           brand new feature on the landscape as it were? How can  
6           you tell -- like, if there's a camera and it does not  
7           record activity, how can you tell whether that's  
8           because there's no activity or whether it's because the  
9           animals are avoiding it?

10      A.   MR. TERRY:                   Right. So, I mean, there's a  
11           couple of things there. So in terms of actually  
12           determining the effectiveness of the underpass, so one  
13           of the ways -- this will assume that they do detect the  
14           animals; right?

11:16

15                   So we're basically going to be looking at their  
16           approach to the area and whether they continue to cross  
17           it. So we'll look at the number of attempts. You  
18           know, did they look at it and turn around, get  
19           deflected, or did they actually pass all the way  
20           through.

11:17

21                   To your other point that, okay, what if we don't  
22           see any of them, we're going to have to basically look  
23           at the data from the other cameras in context of the  
24           year, the location, look at some of the other factors  
25           that may have influenced why they're not using it.

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Ms. Vance

1 Q. Okay.

2 A. MR. TERRY: Yeah.

3 Q. That's really helpful. Thank you.

4 A. MR. TERRY: You're welcome.

5 Q. I think my next question, couple questions, relate to  
6 air quality.

7 And the first one is my common sense question,  
8 which is if I'm a human being somewhere near there, and  
9 I understand part of AT's commitments include a  
10 community liaison -- maybe it's a different community  
11 liaison, but there's some kind of liaison complaint  
12 process for people, receptors in the area.

13 And so given that PM 2.5 is so small, I think  
14 using Dr. Noble's comparison of a human hair being 70  
15 and PM 2.5 being, you know 2.5, would I know that this  
16 stuff is in the air and that I'm breathing it? Would I  
17 know to complain about that? Or is that something that  
18 I would rely on monitoring for?

19 THE CHAIR: You're directing this to  
20 Ms. Noble, Ms. Vance?

21 MS. VANCE: Well, I mean, to whoever can  
22 answer that question, really.

23 A. MR. HEBERT: Mr. Chairman, Ms. Vance, we're  
24 just conferring here. I suspect we'll have an  
25 individual ready just momentarily.

11:18

11:19

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Ms. Vance

1 Q. And there may be no technical response, but I thought I  
2 would ask.

3 A. MR. HEBERT: No, that's completely fair. Our  
4 air expert is preparing.

5 A. MR. PERSON: Sorry, we're kind of struggling  
6 with the question as it's kind of open-ended. Perhaps  
7 could you maybe rephrase it?

8 Q. Would a human being in the vicinity of the project know  
9 if I, for instance, am inhaling PM 2.5? Would I know  
10 that in order to complain about it?

11:20

11 A. MR. PERSON: Maybe another way to look at it --  
12 sorry, this is Mr. Person -- a certain amount of  
13 particulate matter is ubiquitous. And so by that I  
14 mean it's everywhere all the time. So people are  
15 inhaling a certain amount of particulate matter no  
16 matter where you are, inside your house, outside,  
17 because essentially it's in all the air.

18 Now, the -- it's more a matter of at what level  
19 does it potentially have a potential to cause an  
20 adverse effect.

11:21

21 Q. Yes, that's a better question. So would I know that  
22 I'm breathing in PM 2.5 that has the potential to cause  
23 an adverse effect upon me?

24 A. MR. PERSON: You know, I guess based upon a  
25 human's -- you know, their senses, their sense of, you

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Ms. Vance

1 know, touch, sight, smell, it's not a good indicator of  
2 particulate matter concentrations. I think the  
3 individual response of each person is different, and  
4 that's -- perhaps I'll ask my colleague Ms. Noble to  
5 explain that.

6 A. MS. NOBLE: So the short answer is that at the  
7 concentrations that we're looking at, 27 micrograms per  
8 cubic metre I would not expect that you would be able  
9 to sense that just breathing, and hence air monitoring  
10 becomes important.

11:22

11 Q. Thank you. That's a great answer.

12 Okay. My next questions have to do with -- they  
13 actually have to do with the draft federal conditions.

14 Maybe, document manager, the shortcut will be to  
15 bring up Exhibit 219, which I believe is AT's response  
16 to the potential conditions from the federal regulator.  
17 And this I think -- we will see the table where it has  
18 the condition, and then it has AT's response, and I  
19 think we'll go to page 14, please. So, yeah, maybe  
20 just a bit larger. Could you zoom in just a little on  
21 that? Maybe make it 100 percent? Thank you. And I'm  
22 open to having that larger if somebody has a smaller  
23 screen than I do.

11:22

24 So I'm looking at 6.3, Condition Number 6.3, which  
25 is on the first column, and this relates to -- well,

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Ms. Vance

1 I'll just read the condition: (as read)  
2 "The proponent shall develop, prior to  
3 construction and in consultation with  
4 relevant authorities and implement  
5 during all phases of the designated  
6 project, measures to maintain baseline  
7 air quality and prevent exceedance of  
8 the Canadian Council of Ministers of the  
9 Environment Canadian Ambient Air Quality  
10 Standards."

11:23

11 And the way that I understand the next two columns is  
12 that AT is proposing to strike out "maintaining baseline  
13 air quality" -- I apologize -- "baseline air quality for  
14 the construction." They said -- the right-hand column  
15 says: (as read)

16 "Managing air quality to maintain  
17 baseline air quality during construction  
18 is not feasible."

19 So the -- I -- the question is, so that deals with the  
20 construction phase, and I think the strikeout is  
21 for all -- the original condition was for all phases.

11:24

22 So I'm wondering, is it feasible to maintain  
23 baseline air quality for other phases of the project  
24 such as post-flood?

25 **A. MR. HEBERT:** One moment, Mr. Chairman.

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Ms. Vance

1       A.   MR. PERSON:                   Mr. Chairman, it's Mr. Person.

2               The proposed change to the wording with regard to  
3       post-flood operations was intended to reflect that over  
4       the vast majority of the time, we do expect post-flood  
5       operations to result in air quality equivalent to  
6       baseline conditions; but the wording has changed to  
7       recognize the fact that post-flood events under some  
8       conditions and for a relatively short duration, we do  
9       predict and recognize the effect that conditions can  
10      deviate from baseline.

11:26

11      Q.   Thank you. Two rows down relating to Condition 6.4.3,  
12      and I will not read this one unless anybody  
13      particularly wants me to, the change in the centre  
14      column which reflects Alberta Transportation's  
15      recommendations, includes adding -- adding a phrasing  
16      relating to post-flood operations, monitoring TSP and  
17      PM 2.5 continuously for post-flood operations if  
18      determined necessary in consultation with stakeholders  
19      and regulatory agencies.

20              And I do recognize, of course, these are draft  
21      conditions. This is not necessarily going to be a  
22      condition one way or another. And I guess my question  
23      is how do you know -- how do stakeholders, how does AT  
24      or Alberta Environment and Parks know when it is  
25      necessary?

11:27



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Ms. Vance

1       A.   MR. SPELLER:               Mr. Chairman, Ms. Vance, its  
2       Wayne Speller.

3               So Alberta Transportation's commitment in this  
4       space has changed since this February submission.  
5       Mr. Hebert spoke about it in his opening. Instead of  
6       it being monitoring post-flood operations and  
7       determined necessary, it's now become after each flood  
8       event, there will be 16 months of monitoring conducted  
9       for TSP and PM 2.5.

10              So this has actually been modified within Alberta  
11       Transportation's list of commitments since this was  
12       filed in February.

13       Q.   Okay. I appreciate that. I thought I had read 16  
14       months somewhere, and I definitely did. Thank you for  
15       the clarification.

16              I may have one more. Let me just have a look.

17              Okay. So this question relates to vegetation and  
18       cover crops. So my understanding of a cover crop is  
19       that it's a crop, essentially planted to mitigate, you  
20       know, soil erosion through wind.

21              And so at the same time, I know there's discussion  
22       in the documents about native seed mixes to reestablish  
23       the native grasslands. And my question is how will the  
24       cover crops interact with the native seed mixes; for  
25       example, will they be competing with each other?

11:28

11:29

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Ms. Vance

1       A.   MR. DE CARLO:           Mr. Chairman, Nick De Carlo here.  
2       I can speak to this.

3               The cover crops, as long as they're managed well,  
4       they should not interfere with the native seed mix.

5               And the important thing is that the cover crops  
6       are cut prior to maturing so that the seed set doesn't  
7       mature, and those seeds are subsequently able to  
8       compete with the native plants as they establish.

9       Q.   And perhaps a bit of a silly question, but would you  
10       have to then replant the cover crops since they're not  
11       producing their own seeds, or would that become moot  
12       after the native seed takes hold?

11:30

13      A.   MR. DE CARLO:           Mr. Chairman, Nick De Carlo again.

14               It would become moot depending on how the native  
15       vegetation is establishing. So the cover crop would be  
16       intended to be sown because the vegetation is not  
17       establishing as rapidly as desired. And, in the  
18       future, if the problem was detected again, it could be  
19       reapplied.

20      Q.   Okay. Thank you so much.

11:30

21               I believe those are all my questions. Thank you  
22       very much for your time.

23      THE CHAIR:                   I guess it does help if I unmute.

24       I'm sorry.

25               Thank you, Ms. Vance.

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Heaney

1           Mr. Kennedy, did you have any questions for the  
2           witness panel?

3           MR. KENNEDY:                   I have no questions, Mr. Chair.  
4           Thank you.

5           THE CHAIR:                    Dr. Heaney, do you have questions  
6           for the Panel?

7           MR. HEANEY:                    Thank you, Mr. Chairman. I do.

8           MR. HEANEY QUESTIONS THE PANEL:

9           Q.    So I want to just explore a couple of things to make  
10           sure that my thinking on them is correct.

11:31

11                    So let's start with early release to late release,  
12           and I don't want to belabour this, but -- so those are  
13           the bookends.

14                    And my understanding is the actual time of  
15           release, how long -- you know, how long it takes to get  
16           the water out of the reservoir, is likely going to be,  
17           let's call it more of a continuum, that it will be  
18           based on the particular flood conditions in the river,  
19           things like that.

20                    I see you nodding, Mr. Wood. Is that a yes?

11:32

21           A.    MR. WOOD:                    Yes, Dr. Heaney, that's correct.

22           Q.    Okay. So then I want to go to Dr. Whitson, I believe.  
23           And I had a question for him.

24                    In your sediment study, am I correct to assume  
25           that -- or from your take, as we go from early to late,

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Heaney

1 the area and depth of sediment will be wider and  
2 deeper, but it will also be finer textured and it will  
3 be a better parent material for supporting plant growth  
4 in the future? Have I got that right?

5 A. MR. WHITSON: Mr. Chair, in some ways I think  
6 you might have a couple of things mixed together.

7 When you say "early to late," I'm not sure if  
8 you're referring to the very recent revised early/late  
9 release modelling where there's two scenarios, one is  
10 much shorter than the other, or if you're referring to 11:33  
11 the original 2018 EIA analysis where it was, I think  
12 around -- for the design flood, it was somewhere in the  
13 order of 60 days or 67 days. But I'm not sure if  
14 you're referring to those two different -- two  
15 different events, but then there's the issue of the  
16 sediment.

17 Both the -- for the most recent sediment  
18 modelling, I only focused on the late release design  
19 flood; I didn't look at the early design flood version.  
20 So I know the sediment has changed very much between 11:34  
21 the 2018 EIA and these more recent versions.

22 Now, we have a much more spatially diverse  
23 sediment pattern, sand in a small portion of the total,  
24 clay around the outer perimeter, and then primarily  
25 silty material. So that's the big change between 2018

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Heaney

1 and now. In terms of the spatial extents for the very  
2 recent early/late release modelling they're not too  
3 much different in the scheme of things.

4 Q. Okay. So but in terms of the part of the question that  
5 dealt with the longer the water stays in the reservoir,  
6 areas under that water, the sediment will be finer, in  
7 general?

8 A. MR. WOOD: Dr. Heaney, this is Matt Wood.  
9 You are correct. As the water is held, the heavier  
10 particles settle out first. And so the longer it's  
11 held, it's the finer particles.

11:35

12 So in the later release scenario, when that water  
13 is left, you're left with more fines on the top than  
14 you would have been in the early release.

15 And if I may, I would like to repeat something  
16 that I mentioned earlier about early and late release.  
17 I know there has been a lot of confusion around this.  
18 The plan is -- the early release is the operational  
19 scenario. The later release was looked at for  
20 environmental impacts.

11:35

21 Q. Okay. Like, release could be delayed under certain  
22 circumstances?

23 A. MR. WOOD: Yes. Absolutely it could be.

24 Q. Okay. Because what I'm -- wanting -- exploring a bit  
25 is what are some of the tradeoffs, right?

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Heaney

1           So back to -- maybe Dr. Whitson or Mr. De Carlo,  
2           the effects of that sediment being finer on  
3           vegetation -- reestablishment of vegetation, where  
4           would that be a better medium for reestablishing  
5           vegetation?

6       **A. MR. DE CARLO:**           Mr. Chair, Nick De Carlo here.  
7       Dr. Heaney, there is a tradeoff. The finer material  
8       that would be deposited in a late sediment or a late  
9       release, is better; it's a better parent material, as  
10      you've mentioned, because it's got better water-holding  
11      capacity, but the tradeoff comes in the depths of  
12      sediment between the early and late.

11:36

13           So if it's delayed to a late release, you're going  
14           to have a greater extent of deeper sediments, so that  
15           may result in more vegetation loss.

16      **Q.** And I think you answered my next question there. So  
17      there's a tradeoff between it's a better medium, but  
18      you're going to lose more of your existing vegetation.

19           So just continuing along the vegetation line,  
20           you're going to lose -- in any event, you're going to  
21           lose some vegetation because it's covered with  
22           sediment.

11:37

23           The question I have is both loss of vegetation and  
24           differences in species' ability to tolerate flooding  
25           and what effect that might have on, you know, the areas

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Heaney

1           which you've defined as less than 10 centimetres where  
2           there might be some potential for vegetation regrowth.

3           So species' differentiation and because of  
4           drowning or would you -- or time -- the time element in  
5           terms of drowning of existing vegetation.

6    **A. MR. DE CARLO:**           Mr. Chairman, Nick De Carlo again.

7           You're correct. It's a combination of both the  
8           sediment and the length of time that water is standing  
9           in the reservoir. So the longer the length of the  
10          period, the greater the potential for the soils to  
11          become anoxic, and also the plants to be robbed of  
12          oxygen, which would lead to mortality.

13          The differences, at a broad scale, would be  
14          between wetland plants and upland plants. Wetland  
15          plants have a greater ability to tolerate anoxic  
16          conditions because they grow in these situations and  
17          experience them more regularly. And the early release  
18          is more aligned to the conditions that wetland plants  
19          would naturally experience in the prairie region.

20          The upland plants, on an early release, we may  
21          still see some mortality but it would be less so  
22          because of the shorter duration of flooding within the  
23          reservoir.

24    **Q.** Okay. So do you have -- or did you do any work to  
25          establish if there were species' differences in the

11:38

11:38

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Heaney

1 upland community and, you know, which ones would be  
2 more susceptible to death by drowning?

3 **A. MR. DE CARLO:** Again, Nick De Carlo speaking  
4 **Mr. Chairman.**

5 We did do that in, I believe it's Exhibit 49, the  
6 EIS where we looked at various dominant plants and  
7 their abilities to tolerate different flooding extents.

8 Now, it's not a complete analysis due to  
9 limitations in the available scientific information for  
10 different plants and the timelines. Some of the  
11 information is broad in nature.

11:39

12 **Q.** Okay. And so just one last question, then. So is it  
13 fair to assume that the plant community post-flood --  
14 and let's keep the construction area out of this --  
15 that the plant community post-flood is going to be  
16 somewhat simplified?

17 **A. MR. DE CARLO:** Mr. Chairman, Nick De Carlo again.  
18 Yes, I think that's a reasonable conclusion, although I  
19 would add that we would expect, over time, that native  
20 plants can disperse to the reservoir, and we are also  
21 communicating with Indigenous groups on changes to the  
22 seed mix and those could boost the complexity.

11:40

23 **Q.** Okay. And then just one last question about  
24 the -- going back to the sediment for a second.

25 The finer -- the existing soils there are a



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Heaney

1 finer-textured soil, and you mentioned -- you did  
2 mention water-holding capacity. So are we -- would  
3 there be a shift towards more drought-tolerant species  
4 in the sediment area once its revegetated?

5 A. MR. DE CARLO: Mr. Chairman, Nick De Carlo.

6 I think that is a possible outcome. Dr. Whitson  
7 can speak more to the distribution of soil types within  
8 the reservoir, but a change from, for example, a loam  
9 to a silt/clay mixture could have altered  
10 moisture-holding capacity which would influence  
11 vegetation.

11:41

12 A. MR. WHITSON: Mr. Chairman, this is Dr. Whitson.  
13 I would just like to add one more bit of information,  
14 nuance, in that those fine-textured soils will remain  
15 underneath the flood sediments. And so it's an  
16 interesting landscape situation where you have a  
17 fluvial veneer deposited over a clay-textured basement,  
18 essentially.

19 So, to some degree, even if there's a slight shift  
20 in the flood sediment towards coarser textures, you've  
21 got that underlying clay texture material acting as  
22 a -- as kind of a groundwater -- a downward flow  
23 barrier. So there's a little bit of an extra reserve  
24 of water built into this situation.

11:42

25 Q. Point well taken, Ivan.

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Ceroici

1           So just then the -- I think -- just let me check  
2 quickly. I think that --

3           Oh, yeah, one more question, and this may be  
4 Mr. De Carlo or Dr. Whitson.

5           Do you expect the -- when the sediment is, you  
6 know, less than 20 to 30 centimetres deep, do you  
7 expect then, once the cover is established, that  
8 they'll be able to draw on nutrient reserves in  
9 the -- in the underlying soil, the original soil?

10 **A. MR. DE CARLO:**           Mr. Chairman, Nick De Carlo again.      11:43  
11 Yes, I would expect that in time.

12           As a generality, the rooting zone is recognized as  
13 0 to 30 centimetres. That's where the bulk of the root  
14 material is -- exists. So deeper than 20 centimetres  
15 would be in the main rooting zone, and they'd be able  
16 to access that moisture.

17 **MR. HEANEY:**               Okay. Thank you. Those are my  
18 questions.

19 **THE CHAIR:**               Thank you, Dr. Heaney.

20           Mr. Ceroici, do you have questions for the witness  
21 panel?      11:43

22 **MR. CEROICI:**               Yes, I do, Mr. Chair. Thank you.

23 **MR. CEROICI QUESTIONS THE PANEL:**

24 **Q.** I just have a couple of questions on air, a follow-up  
25 to some of Mrs. Vance's questions relating the impact

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Ceroici

1 assessment agency recommendations.

2 So there is -- you know, AT has indicated that  
3 they will be establishing some air monitoring stations  
4 in the area, and IAAC was suggesting that be done with  
5 Health Canada and Environment and Climate Change  
6 Canada. But given that at the end of -- the project is  
7 constructed, it will be turned over to Alberta  
8 Environment for, essentially, managing, and given  
9 Alberta Environment's experience, would they be  
10 involved as well in establishing what this program  
11 would look like?

11:44

12 For example, where the station would be located,  
13 the type of monitoring, the type of mitigation that  
14 might be contemplated and how to -- you know, how to  
15 essentially establish the success of that?

16 **A. MR. HEBERT:** Mr. Ceroici, yes, they would.

17 **Q.** Okay. And then my -- another question. With respect  
18 to these --

19 **THE CHAIR:** Mr. Ceroici, sorry to interrupt.

20 Mr. Wiebe, I thought I noticed Mr. Whitson has  
21 been given host. Is there something going on or is it  
22 all good?

11:44

23 **A. MR. WHITSON:** Mr. Chair, I just closed a little  
24 screen that was open on my computer screen. I don't  
25 know why it was there, but I hope that solves whatever

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Ceroici

1           **problem that was.**

2       THE CHAIR:                   Yes. Mr. Wiebe, is it all good on  
3       the zoom front here? And, if so, could Mr. Ceroici be  
4       put up on the speaker view, please?

5       MR. WIEBE:                   Yeah, for sure. It has frozen on  
6       me, and the list has been slow to update, and that's  
7       why I haven't gotten the people up as quick.

8       THE CHAIR:                   Okay. I kind of thought maybe  
9       something was going on there, so...

10       MR. WIEBE:                   Yeah, yeah. Yeah, that's weird.           11:45  
11       I'm going to --

12       THE CHAIR:                   Okay. I'll let you work in the  
13       background, and for now Mr. Ceroici will have a smaller  
14       icon, which maybe he'll appreciate anyway, I don't  
15       know. But for now, Mr. Ceroici, sorry, and,  
16       Mr. De Carlo, continue. Thank you.

17       MR. CEROICI:                  No problem.

18       Q. Again, with respect to the monitoring, obviously it's  
19       indicated that it will be installed before construction  
20       commences.   11:46

21               Are there plans to monitor, like, months in  
22       advance or -- of construction to establish sort of a  
23       baseline that could be useful later on for comparing  
24       any possible monitoring results?

25       A. MR. HEBERT:               Mr. Ceroici, yes, the monitoring

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Mr. Ceroici

1 would occur before the start of construction for the  
2 purpose you described.

3 Q. Okay, but that would be, like, a period -- a long  
4 enough period that it could be used as an effective  
5 baseline?

6 A. MR. HEBERT: One moment, sir.

7 So, Mr. Chairman, again, not to pre-judge the  
8 outcome of the regulatory process, but  
9 Alberta Transportation's intent would be to get that  
10 monitoring as soon as possible.

11:46

11 Q. Okay. Thanks. And one last question relating to our  
12 favorite topic, the early release.

13 But from an air quality perspective, so, again, my  
14 understanding is that in the early release process  
15 we're dealing more with coarser sediments, so is it  
16 fair to say that that would result in less potential  
17 for wind, you know, carrying of suspended particles?

18 A. MR. HEBERT: One moment, sir.

19 A. MR. WOOD: Mr. Chair, it's Matt Wood. While  
20 my colleagues are conferring, I just wanted to  
21 highlight that the contrast between the two is not that  
22 stark.

11:47

23 While it is -- it is likely, as the settling  
24 happens, you're going to get fine materials on the top,  
25 I just wanted to provide clarity so that the impression

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by Ms. Roberts

1           isn't that it's very -- very coarse material versus  
2           very fine material. There is some difference, but it's  
3           not too great.

4           THE CHAIR:                               Ms. Vespa that was Mr. Wood.

5           A.   MR. PERSON:                        And this is Mr. Person.

6                        And to supplement Mr. Wood's answer, a good way to  
7           look at this would be what we called "Case 4" in our  
8           sensitivity analysis, reflects the late release flood,  
9           so a -- but the assumptions around a larger or largest  
10          around of fine sediment. But what we called "Case 3"  
11          reflects the same sediment area but with a more coarse  
12          textured general sediment.

11:48

13                       So I think the difference between the early and  
14          the late release scenario could be interpreted as  
15          comparing the results between Bookcase 3 and Case 4 as  
16          kind of bookends.

17          Q.   MR. CEROICI:                    Okay. Sort of a continuum.  
18          Yes.

19                       Okay. Thank you, that's all of my questions.

20          THE CHAIR:                               Thank you, Mr. Ceroici.

11:49

21                       Ms. Roberts, do you have questions?

22          MS. ROBERTS:                        I just have a vegetation question.

23          MS. ROBERTS QUESTIONS THE PANEL:

24          Q.   So based on our discussion, I understand that there  
25          won't be disturbance of sediment unless it's required

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by The Chair

1 for drainage. So if and when seeding is needed, will  
2 that seed be surface applied? Will there be any kind  
3 of cover overtop of it? I'm just wondering about  
4 germination of these seeds.

5 **A. MR. DE CARLO:** Yes, it's Mr. De Carlo here,  
6 Mr. Chair.

7 There are various options available, including a  
8 drill seed, a hand broadcast, hydroseeding, and the  
9 option selected will vary based on the time of seeding  
10 and type of seed that is being applied. Soil contact  
11 is important, and it can also be applied with  
12 tackifiers, so there is an opportunity to do them in  
13 conjunction.

14 **MS. ROBERTS:** Okay. Thank you. That's all.

15 **THE CHAIR:** Thank you, Ms. Roberts.

16 I have a couple of questions.

17 **THE CHAIR QUESTIONS THE PANEL:**

18 **Q.** So we're hearing that the early release more recently  
19 modelled is, of course, different than the later  
20 release modelling done for dust vegetation impacts for  
21 sedimentation.

22 So can we assume then that the EIA results, then,  
23 are sort of the worst-case scenario for a lot of those  
24 factors associated with sedimentation because the water  
25 would have been in the reservoir longer, and perhaps

11:50

11:50

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by The Chair

1 for dust as well, because there would be more  
2 sedimentation and more available for uptake through  
3 drying and then wind -- wind action. Is that a  
4 reasonable assumption, or do I have that wrong?

5 **A. MR. BRESCIA:** Mr. Chairman, it's Dave Brescia.  
6 Perhaps I'll start this and indicate that the --  
7 certain aspects of the effects on vegetation considered  
8 both the early and late release scenario using the  
9 updated modelling, and that's the information that was  
10 presented in -- I'll just -- Exhibit 218 in Information  
11 Request 4-01. So it considers both the early and late  
12 release of the updated modelling to provide those  
13 bookends.

11:51

14 **Q.** Thank you. And so -- and I believe it was Mr. Whitson,  
15 spoke about the sort of land quality or the soil  
16 quality and ability for it to sustain vegetation  
17 post-flood depending on, of course, the deposition of  
18 the sedimentation.

19 So in terms of earlier, other topic areas where we  
20 spoke about land use, grazing, and grazing for fire  
21 suppression, now, if there's sedimentation, probably  
22 fire isn't going to be an issue but grazing may be. So  
23 to what extent is the overall land use being  
24 contemplated in terms of -- or perhaps changes in that  
25 initial land use plan based on whether or not grazing

11:52



## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by The Chair

1 is going to be sustainable in that entire reservoir  
2 area over the longer term, in particular, I suppose,  
3 post-flood?

4 **A. MR. HEBERT:** One moment, Mr. Chair.

5 **A. MR. BRESCIA:** Thank you, Mr. Chairman, this is  
6 Mr. Brescia. So in the land use principles, the  
7 grazing consideration is for the purposes of  
8 controlling and managing the vegetation.

9 So it would be applied in response to the  
10 vegetation conditions that would be on site and in  
11 consultation or decision through the land use advisory  
12 committee as to whether that would be necessary or not.

13 **Q.** So I would take it that it is a bit of a wait and see  
14 currently as of today. There would be a lot of grazing  
15 available, obviously, given the current land use, but  
16 post-flood those decisions and the amount of land  
17 available will need to be made based on whether or  
18 not -- or to the extent that there's vegetative  
19 capability for grazing. Is that fair?

20 **A. MR. BRESCIA:** Mr. Chairman, that would be a fair  
21 statement.

22 **Q.** Okay. And in terms of, you know, the reseeding, a  
23 little bit of a follow-up to Ms. Roberts' question, and  
24 perhaps it's a bit of the old farmer in me, but I  
25 haven't heard a lot about -- well, I've heard of

11:53

11:54

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by The Chair

1 different seeding techniques, including direct  
2 drilling -- or direct seeding, but it seems to me that  
3 depending on sediment thickness, there could be  
4 advantages of sort of more traditional tillage to  
5 incorporate some sediment at least with soil and then  
6 reseeding. Has that even been considered, or is there  
7 a reason that that would be inappropriate?

8 **A. MR. DE CARLO:** Mr. Chairman, it's Mr. De Carlo  
9 here.

10 You are correct. A lot of the activities when it  
11 comes to managing revegetation can be viewed in a  
12 farming manner, and there may be instances where it  
13 would be appropriate to till and reintroduce some of  
14 the lower soils' properties.

11:54

15 They can also be beneficial for reducing wind  
16 erosion, and I think it would be, at least partially  
17 dependent on how the vegetation has been affected. Is  
18 it fully removed, partially removed? Some activities  
19 could interfere with revegetation, particularly if it  
20 was done in an area that is currently native.

11:55

21 **Q.** Okay. Thank you. And one last quick question. In  
22 terms of the tackifiers, and, you know, I guess many of  
23 us may have experienced these being used in roadsides  
24 in particular, you know, steeper embankments, they have  
25 these tackifiers that seem to be sprayed.

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by The Chair

1           What is the -- and this would be, of course, on  
2 more level ground, but the effect of length of time  
3 that those are effective, essentially, for, in  
4 particular, if they're going to be used not so much for  
5 the seeding process but perhaps seeding as well, but  
6 for dust suppression? Do they need to be reapplied,  
7 and is there some -- it's just basically visual  
8 inspection? Is it working? Had they been -- has it  
9 deteriorated and need to be reapplied?

10 **A. MR. DE CARLO:**           Mr. Chairman, it's Mr. De Carlo  
11 again.

11:56

12           Available information that we've been able to  
13 obtain indicates that the persistence and the viability  
14 of the tackifiers ranges from approximately 3 months to  
15 18 months, and this is going to be influenced by  
16 environmental conditions as well.

17           It could be reapplied later, and yes, so I would  
18 expect that there would be a need to re-examine to see  
19 how that is functioning and how the vegetation is  
20 establishing.

11:57

21 **A. MR. SVENSON:**           Mr. Chair, this is Mark Svenson.

22           Just to supplement a little bit, Transportation  
23 has used hydroseeding and tackifiers and items such as  
24 that in numerous projects throughout the province, and,  
25 yes, depending on the environmental conditions, the

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by The Chair

1 site-specific conditions, those -- a tackifier may have  
2 to be reapplied after a number of months.

3 And typically it is a visual thing. You can tell  
4 if it's starting to break down, and you start to have  
5 those -- those dust -- or dust being generated, and  
6 then it would be reapplied if vegetation has not had a  
7 chance to establish at that point.

8 Q. Okay. Thank you. And one final quick question related  
9 to air, and Ms. Vance had asked, you know, a good  
10 question about whether or not we can detect whether or  
11 not we're inhaling PM 2.5 and, if so, how much if it  
12 was at higher elevations. I think I heard that we  
13 likely cannot detect that, so that's the reason for  
14 monitoring.

11:57

15 But my question is, if there are -- if there is an  
16 abundance, higher than expected levels of PM 2.5, are  
17 those typically almost always associated with the  
18 larger dust that would be detectible?

19 In other words, there's dry conditions, things are  
20 blowing, and there's a lot of dust around, and some of  
21 that is PM 2.5 and some is larger, but it's clear that  
22 something is happening out there in terms of air  
23 quality; or is it the case that you can have an  
24 abundance of PM 2.5 exceedances perhaps, without those  
25 other dust particles that would be easy to identify, so

11:58

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by The Chair

1 that you could be unknowingly essentially inhaling  
2 PM 2.5 in levels -- at levels that you really wouldn't  
3 want to be?

4 A. MS. NOBLE: This is Tania Noble. I appreciate  
5 the opportunity to provide some clarity.

6 So as I mentioned PM 2.5 at those levels on their  
7 own you might not be able to detect.

8 However, with regards to this project, as we note,  
9 the source is fugitive dust, and we've looked at -- as  
10 you note, PM 2.5 doesn't occur on its own. There's a  
11 range of particulate including PM 10 and TSP. The TSP  
12 guidelines that were used to assess the air quality,  
13 although not directly related to human health, are  
14 related to nuisance levels.

15 And so if you go back and look at the results  
16 provided in Exhibit 237, what you'll notice is that the  
17 TSP levels are above nuisance levels long before the  
18 PM 2.5 concentrations approach the Canadian ambient air  
19 quality standards.

20 So, based on that, you would certainly be able to  
21 notice the particulate matter before the concentrations  
22 would be expected to reach the Canadian ambient air  
23 quality standards.

24 The other thing I should point out is that the  
25 PM 2.5 24-hour concentration of 27 is based on a

11:59

12:00

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by The Chair

1           24-hour average exposure. Short-term concentrations  
2           higher than that would not necessarily result in a  
3           24-hour concentration.

4           I think in terms of what you might experience, you  
5           could probably think about it in terms of a typical  
6           construction site where, as you go by, you can  
7           certainly notice the nuisance aspects of it, and  
8           noticing the nuisance aspects wouldn't necessarily  
9           imply that there is an unacceptable health risk.

10        A.   MR. PERSON:                    And, Mr. Chairman, this is  
11        Mr. Person.

12:01

12           Just to supplement that. With fugitive dust in  
13           general, the majority of the dust is actually coarser  
14           material. So it is generally within the size fractions  
15           larger than 2.5 -- or at a relative proportion basis,  
16           the amount of the particulate is smaller than 2.5. It  
17           is quite small.

18        Q.   Thank you for the clarification. I guess my question  
19           was related to people's ability to perhaps recognize  
20           when a risk may occur. And I hear that the risk level  
21           of PM 2.5 may not be above air quality standards if the  
22           nuisance fugitive dust is noticed, but it may well be.

12:01

23           So, at the very least, I would assume that, under  
24           the plans that were submitted or the conditions that  
25           were submitted by Mr. Secord, as an example, for people

## ALBERTA TRANSPORTATION TOPIC #5 PANEL

Questioned by The Chair

1 to have an ability to a complaint line or whatever you  
2 might call it, if there is fugitive or nuisance dust,  
3 that would be at least a trigger for follow-up based on  
4 the fact that, you know -- it could be the case that  
5 PM 2.5 levels are also higher than maybe either  
6 expected or desirable.

7 **A. MR. PERSON:** Mr. Chairman, one other point.

8 The recommended --

9 COURT REPORTER: Who's speaking, please?

10 **A. MR. PERSON:** It's Mr. Person.

11 COURT REPORTER: Thank you.

12 THE CHAIR: And a little bit louder if  
13 possible. Thanks.

14 **A. MR. PERSON:** Sure.

15 Mr. Chairman, the monitoring station locations  
16 have been recommended or sited in locations generally  
17 in between the project and nearest receptors. And so  
18 information collected from those monitoring stations  
19 would be intended to provide a conservative  
20 representation or conservative indicator of potential  
21 effects or exposure at those locations and provide  
22 useful information to understand if the mitigation is  
23 effective and, if not, to adapt it.

24 THE CHAIR: Thank you. Those are all my  
25 questions. Thank you very much.

12:03

1 I do have a closing comment, but first I would ask  
2 Alberta Transportation, Mr. Kruhlak, or -- I presume,  
3 but it may be Mr. Barbero or Mr. Fitch, if you plan on  
4 redirect, and if you do, we may break first, but is  
5 there a redirect desire?

6 MR. BARBERO: Mr. Chair, it's Michael Barbero  
7 here. I hit the space bar first.

8 No, no redirect from Alberta Transportation, sir.

9 THE CHAIR: Okay. Well, then, I would like to  
10 thank Alberta Transportation and the panel today,  
11 Mr. Hebert, and your colleagues, but also panel members  
12 that may not be here today because they served on other  
13 topic areas for, you know, your professional approach,  
14 and providing, you know, answers to all the questions  
15 that were asked and/or taken as undertakings.

12:04

16 So thank you very much on behalf of the Panel.

17 A. MR. HEBERT: Thank you, Mr. Chairman. I hope  
18 we've answered all your questions appropriately.

19 THE CHAIR: Thank you.

20 (PANEL STANDS DOWN)

12:04

21 THE CHAIR: So, clearly, I think an  
22 appropriate time for a break. We are going to be tight  
23 on time, I think.

24 So if it's all right with everyone, I think if we  
25 can go for -- maybe come back -- it's already after



1           noon but if we get back at quarter to 1, 12:45, if that  
2           works for everyone for grabbing a bite, getting back to  
3           the hearing, I'd appreciate that. So let's break now  
4           and come back at 12:45. Thank you, everyone.

5           (PROCEEDINGS ADJOURNED AT 12:05 P.M.)

6           \_\_\_\_\_

7           PROCEEDINGS ADJOURNED TO 12:45 P.M.

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1 Volume 9  
2 April 1, 2021  
3 P.M. Session

4

5 (PROCEEDINGS RESUMED AT 12:55 P.M.)

6 The Chair: We can do a bit of clean up first,  
7 because I did want to have the document managers up and  
8 that's where the spotlight would have been quite handy  
9 because that was the whole point.

10 But first, before we do that, City of Calgary, I  
11 understand, Ms. Senek, you have some transcript  
12 corrections to be made and entered into exhibit?

12:55

13 MS. SENEK: Yes, thank you, Mr. Chair. I  
14 circulated a letter this morning to all counsel with  
15 two minor transcript corrections to -- I believe it was  
16 Day 2, March 23rd, that I don't think should be  
17 controversial, and I would suggest that could be  
18 entered as an exhibit.

19 THE CHAIR: Are there any objections to  
20 Ms. Senek's request and changes?

12:56

21 MR. SECORD: No --

22 MS. FRIEND: This is Laura, and that would be  
23 Exhibit Number 399.

24 THE CHAIR: Sorry, Mr. Secord, were you going  
25 to weigh? Were there any objections?

1 MR. SECORD: No, no, no. No objections.

2 THE CHAIR: Thank you. Thank you, Ms. Senek.

3 Was that all?

4 MS. SENEK: That was everything. Thank you.

5 **EXHIBIT 399 - CITY OF CALGARY**

6 **TRANSCRIPT CORRECTIONS**

7 THE CHAIR: Before we get onto document  
8 managers, we had Mr. Kennedy do a bit of canvassing for  
9 final argument times.

10 And Ms. Senek, City of Calgary, I'm not sure if  
11 you have yet replied or gotten back. Did you plan on  
12 making final argument, and if so, what time were you  
13 hoping to have?

12:56

14 MR. MERCER: Good afternoon, Mr. Chair. It's  
15 David Mercer here from the City of Calgary.

16 We submitted, maybe a little bit late, back to  
17 Mr. Kennedy, but we were expecting it would be  
18 40 minutes max.

19 THE CHAIR: 40. Okay. Thank you.

20 And, Mr. Wagner, I don't know if you were able to  
21 get back to Mr. Kennedy or if you received that  
22 communication. Were you planning on making final  
23 argument?

12:57

24 MR. WAGNER: I didn't actually see that  
25 communication, Mr. Chair. And given that my lack of

1 knowledge on the way these proceedings work, I'm not  
2 exactly sure of the content of a final argument.

3 So maybe if I could get a couple of minutes of  
4 Mr. Secord's time at some point in the next day, that I  
5 could get a bit of a rundown on what I'm supposed to be  
6 providing.

7 THE CHAIR: Right. Oh, I'm getting some  
8 feedback here through some mic.

9 So, Mr. Wagner, if we slotted you in for a half an  
10 hour, or you may not take that long, and you don't have  
11 to take the time, but would that be fair, just so I can  
12 schedule the day for now.

12:57

13 MR. WAGNER: I think that's entirely fair. I  
14 just -- given my lack of expertise in the area, I need  
15 to probably get an idea of what I should be doing, so.

16 THE CHAIR: That's totally fair.

17 And I guess the Panel's view, after hearing some  
18 requests, is that we would -- and we quickly caucused  
19 over the lunch break on this -- we would like to see  
20 final argument and reply, if possible, the same day.

12:58

21 And the way that we might be able to make that  
22 happen is to have the final arguments during the day,  
23 and if we had a tally of -- we were able to make it  
24 8:30 to 5 for final argument with two hours for  
25 Alberta Transportation, two hours for SCLG, 30 minutes

1 to Calalta, 30 minutes to Stoney Nakoda, 40 minutes  
2 City of Calgary, 40 minutes for Calgary River  
3 Communities Action Group, 30 minutes perhaps for  
4 Mr. Wagner and that would take us a full day, almost  
5 exactly actually.

6 What I'd like to throw out there, I guess, for  
7 feedback is if we were able to finish final then from  
8 8:30 to 5, we could have perhaps even an hour and a  
9 half break, people could grab a bite to eat, stretch  
10 your legs, have a coffee and allow Transportation at  
11 least a few minutes. 12:59

12 They may not be able to do all those things, but  
13 it would help them prepare a reply. They've requested  
14 between, I think, it's 60 minutes and 90 minutes for  
15 reply. And we could do that at say 6:30 and then we  
16 would be done for -- the hearing would then close, of  
17 course, at that time.

18 Any objections or suggestions?

19 MR. SECORD: Just one thing, sir. Obviously,  
20 the SCLG have been pretty active as an intervener with  
21 quite a number of expert witnesses. We have five topic  
22 blocks, and so we were hoping to, you know, get three  
23 hours. 13:00

24 But, perhaps, you know 30 minutes per topic block  
25 would give us two and a half hours. And, of course, AT

1 does have a reply so, you know, they can respond to  
2 arguments that we make. We don't get a reply, so we  
3 would like to get a little more -- a little more time  
4 if we could, and I guess that would be my request.

5 THE CHAIR: Right. We'll -- the Panel will  
6 caucus over -- hopefully a quick afternoon break.  
7 You're essentially asking for another half hour.

8 You know, I do think that you're right,  
9 Mr. Secord, you did weigh in on every topic block, to  
10 be sure.

13:01

11 You know, my sense is that, you know, for example,  
12 Topic Block 5, there was a lot of questioning, as were  
13 a couple of other topic blocks, but not all perhaps had  
14 the same weighting, in my view, but we'll take that  
15 under consideration.

16 In terms of if we're able to finish around 5:00,  
17 and that might mean even a shorter lunch break that day  
18 then, I suppose, but coming back that evening, is that  
19 agreeable to parties?

20 MR. SECORD: Sure. I mean, I did mention to  
21 Mr. Kruhlak that we did have, you know, the week, and  
22 it might work for him to come back and do a reply on  
23 the Wednesday morning, but -- which I would have no  
24 objection to; but, in any event, we're in your hands  
25 and we'll make whatever -- whatever you would like to

13:01

1 make work, we will make work.

2 THE CHAIR: And we'll -- we do want to be fair  
3 as well, Mr. Secord obviously.

4 Mr. Kruhlak?

5 MR. KRHLAK: Thank you, Mr. Chairman. I guess  
6 I appreciate Mr. Secord pointing out our opportunity to  
7 reply, but, technically, we're to be meeting new  
8 issues. And I guess I had earlier suggested to  
9 Mr. Kennedy three hours in a similar amount to my  
10 friend Mr. Secord, but if -- we're, of course, in the  
11 Board's hands as to your direction.

13:02

12 I appreciate we want to try to manage it, but if  
13 we're looking at reducing that, I guess -- I think  
14 Alberta Transportation would be sort of seeking equal  
15 time to make sure we address all of those issues to  
16 sort of the same degree. So, you know, I guess I'm  
17 saying if SCLG is seeking two and a half hours, then I  
18 think that would probably be appropriate for the  
19 proponent.

20 And reply, I guess we could consider it later in  
21 the day, but our preference would be if the Board would  
22 be open to giving a reply -- a briefer reply the next  
23 morning, that would give us a chance to, more  
24 reasonably, digest and organize what we hear from on  
25 that date.

13:03

1           So those would be my two requests for your  
2           consideration, Mr. Chairman.

3       THE CHAIR:                   And fair requests, both  
4           Mr. Kruhlak and Mr. Secord. We'll have a quick caucus  
5           in the afternoon here and come back with a decision for  
6           next Tuesday and/or perhaps a short morning on  
7           Wednesday. So we'll take that under advisement. Thank  
8           you.

9           Ms. Friend -- or sorry, any other parties in terms  
10          of weighing in on the matter? 13:04

11          Hearing none. We'll get back to you after  
12          afternoon break.

13          Ms. Friend, any word?

14       MR. FRIEND:                No, unfortunately, I don't have an  
15          update.

16       THE CHAIR:                Okay. Well, just before we get  
17          started then and, obviously, we're running a little bit  
18          behind now. We were trying to catch some time over the  
19          lunch break, but I've gone to -- perhaps other folks  
20          could as well, if you're not on gallery view, perhaps 13:04  
21          you could go to gallery view instead of speaker view  
22          because it is -- we don't have our zoom host to get  
23          this stuff organized for us, and you may notice a  
24          couple of new faces. We do have one of our document  
25          managers that the camera just doesn't seem to want to



1 work, but I did want to take an opportunity to thank  
2 these folks.

3 NRCB is a relatively small organization and, you  
4 know -- and, as such, kind of operate like a small  
5 firm, when there's a big task in front of us,  
6 typically, people just step up and get the job done,  
7 and that's been the case for this hearing. So, pretty  
8 significant, you know, as it turns out, two-week plus  
9 hearing in a new format, and I think it's gone, in our  
10 view, pretty seamlessly.

13:05

11 And part of that is due to the fact that we've had  
12 staff that have -- that are not familiar with the  
13 hearing process and are -- because they're on the  
14 operations side of the business, by and large, they  
15 haven't done this task before.

16 And it's a bit of a pressure cooker for folks that  
17 are coming into something like this live, as you can  
18 imagine, and with folks wanting documents up, and, of  
19 course, we all want them up as quickly as we can, it  
20 keeps the questioning going, and, in my view, they've  
21 all done a phenomenal job.

13:05

22 And I would like to acknowledge those folks,  
23 starting with Ms. Kaminski, if you can just wave there,  
24 Ms. Kaminski, perhaps so everybody can see -- You see  
25 "NRCB Document Manager" in front of your names, and I

1 can assure you, they all have their own names, thank  
2 goodness. So thank you, Ms. Kaminski, and  
3 Ms. Cundliffe. So Ms. Kaminski's in Lethbridge,  
4 Ms. Cundliffe works out of our corporate services HR  
5 out of Edmonton. Ms. Decosemo, so her camera is not  
6 working, but, Nora, is your audio working?

7 MS. DECOSEMO: Yes, it is, Mr. Chair.

8 THE CHAIR: Well, thank you very much,  
9 Ms. Decosemo.

10 Ms. Taylor. Where's Ms. Taylor now? There she is  
11 now? There she is. Right on the top of my screen, at  
12 least. Thank you, Ms. Taylor.

13 And we had Ms. Gagnon who's not with us today,  
14 she's off today; and Ms. Leshchyshyn was in kind of  
15 standby to be a pinch-hitter if necessary.

16 So a big thank you to all you folks, and to  
17 Ms. Friend who has been doing, as a lot of you folks  
18 would know, an enormous amount of work behind the  
19 scenes all through this hearing and has really made  
20 this thing tick. So, Ms. Friend and document managers,  
21 a big thanks from the Panel and I think on behalf of  
22 all the hearing participants. So job well done. Thank  
23 you.

24 MS. FRIEND: Thank you very much. It was a  
25 pleasure.

13:06

13:07

1 THE CHAIR: Thank you. And so I think we can  
2 get started now. If I can figure out where we're at.  
3 My information tells me that City of Calgary was  
4 not planning on providing direct on Topic 5, but just a  
5 quick check (a) to make sure I have it right, and (b)  
6 to make sure you haven't changed your mind.

7 MS. SENEK: Thank you, Mr. Chair. Sorry, it's  
8 Ms. Senek. We're not providing any direct on this  
9 topic.

10 THE CHAIR: Okay, thank you. 13:07  
11 And Mr. Cusano?

12 MR. CUSANO: Yes, sir, your assumption is  
13 correct.

14 THE CHAIR: So next up, then, and I believe  
15 Ms. Louden, Mr. Rae, you are providing some direct on  
16 Topic Area 5. So the floor is yours.

17 Who do we have with us? I'm just looking quickly  
18 because my screen is not working quite right, so.

19 MS. LOUDEN: Thank you, Mr. Chair.

20 THE CHAIR: There you are. I thought I had 13:08  
21 confirmation you were here, Ms. Louden.

22 MS. LOUDEN: Yes. I had a mute issue for a  
23 second there --

24 THE CHAIR: We've all had them, so. Okay.  
25 Thank you.

1 Ms. Louden, the floor is yours. Thank you.

2 Please proceed.

3 MS. LOUDEN: Thank you. Before we jump to our  
4 witness panel for today, I just wanted to quickly  
5 request, I guess, perhaps some clarity on when we might  
6 expect a response from Alberta Transportation regarding  
7 the undertaking that was given yesterday during  
8 cross-examination, particularly regarding the Highway  
9 22 and the high load corridor issue.

10 MR. KRUHLAK: Ms. Louden, it's Ron Kruhlak  
11 speaking. I know we're endeavoring to complete a  
12 number of undertakings and have them go out in the next  
13 probably 30 to 45 minutes.

14 I'll make an enquiry, if you just bear with me for  
15 half a moment whether or not that undertaking has been  
16 included in that batch.

17 MS. LOUDEN: Sure. Thank you.

18 MR. KRUHLAK: I'll have an enquiry made and see  
19 at what state that particular undertaking is at.

20 MS. LOUDEN: Thank you, Mr. Kruhlak.

21 So the Stoney Nakoda's witness panel today for  
22 Topic 5 includes Ms. Adena Vanderjagt. She's manager  
23 of Consulting Indigenous Services at MNP and she was  
24 contracted by the Stoney Nakoda Nations as part of  
25 their review of the SR1 project application.

13:08

13:09

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Louden

1 Ms. Vanderjagt, are you around? Are you here?

2 MS. VANDERJAGT: Yes, I'm here.

3 MS. LOUDEN: I would suggest that now is the  
4 appropriate time for Ms. Vanderjagt to be sworn or  
5 affirmed.

6

7 **ADENA VANDERJAGT** (For Stoney Nakoda Nations), affirmed

8 **MS. LOUDEN EXAMINES THE WITNESS:**

9 Q. Ms. Vanderjagt, your CV is on the record as  
10 Exhibit 344. Can you confirm that your CV is accurate?

13:10

11 A. Yes, I confirm.

12 Q. And can you confirm that you were contracted by the  
13 Stoney Nakoda Nations to complete a review of the  
14 Impact Assessment Agency of Canada's environmental  
15 assessment report and potential conditions, as well as  
16 portions of Alberta Transportation's environmental  
17 impact statement relating to the SR1 project?

18 A. I can confirm.

19 Q. Can you provide a brief summary of your education and  
20 experience?

13:11

21 A. Yes. So my name is Adena Vanderjagt and I'm a manager  
22 with MNP Indigenous Services team specializing in The  
23 Duty to Consult.

24 I have a bachelor of science in geography from the  
25 University of Calgary. That was completed in 2006, and

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1 I have 12 years' experience working in the field.

2 I have specialty in environmental assessment  
3 reviews through the lens of Indigenous rights, how the  
4 rights are integrated, considered, assessed and  
5 mitigated.

6 I've worked extensively with Métis governments,  
7 First Nations, and industry proponents. Through this  
8 work, I've conducted environmental assessment reviews  
9 using this unique lens for projects regulated  
10 provincially, federally, including Impact Assessment  
11 Agency of Canada projects, Canadian Nuclear Safety  
12 Commission projects, and Canadian Energy Regulator  
13 projects.

13:11

14 I've also executed and supported numerous  
15 traditional land use studies or Indigenous rights  
16 assessments for clients across Canada, including  
17 Ontario, Manitoba and British Columbia.

18 Q. And can you just provide a brief outline of what your  
19 role was in preparing evidence on behalf of  
20 Stoney Nakoda Nations?

13:12

21 A. Yes. I supported the Stoney Nakoda Nations' review of  
22 the Impact Assessment Agency of Canada's environmental  
23 assessment report and potential conditions.

24 As part of this, I also reviewed relevant sections  
25 of the environmental impact statement as was filed with

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1 the Impact Assessment Agency on March 29th, 2018.

2 And the findings of my review was compiled by the  
3 Stoney Nakoda Nations into a letter, which is listed as  
4 Exhibit 288.

5 Q. Thank you, Ms. Vanderjagt. You may now proceed to  
6 provide your direct evidence.

7 A. Thank you. Hello, and thank you to the Stoney Nakoda  
8 Nations for allowing me to participate, and thank you  
9 to the Panel and panel participants as well.

10 Throughout my statement, I will refer to the  
11 Stoney Nakoda Nations. This refers to the three  
12 distinct nations, Wesley First Nation, Bearspaw First  
13 Nation and Chiniki First Nation.

13:13

14 So my review was not conducted as a typical  
15 third-party review, which considers the validity of the  
16 biophysical or socioeconomic conclusions within the  
17 environmental impact statement and how those are  
18 characterized in the environmental assessment report  
19 and how they're addressed by the potential condition.

20 Instead, my review, as is typical for MNP's Duty  
21 to Consult Services, was focused on whether the project  
22 is likely to cause potential impacts on Stoney Nakoda  
23 Nations' established Section 35 rights.

13:13

24 The chief and councils of the Stoney Nakoda  
25 Nations have the authority to protect the collective

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1 rights and interests of the Stoney Nakoda Nations, as  
2 recognized by Treaty 7 and the *Natural Resources*  
3 *Transfer Act*, 1930, or the NRTA, and protected by  
4 Section 35 of the *Constitution Act*, 1982, which are  
5 collectively known as Section 35 rights. Therefore,  
6 the results of my review were used in formulating  
7 Exhibit Number 288.

8 As part of my review, I will refer to  
9 Exhibit Number 288, Number 310, Number 35, and  
10 Number 294 and 292; however, I will not require these  
11 exhibits as visual aids for the duration of my  
12 statement.

13:14

13 As the Impact Assessment Agency of Canada and  
14 Alberta Environment and Parks coordinated the federal  
15 and provincial EA processes to acceptance of the single  
16 EIS by the proponent to satisfy both the provincial and  
17 federal requirements and information sharing during the  
18 technical review of the EIS, my review of the EA  
19 report, EIS, and potential conditions can be considered  
20 relevant to the application.

13:15

21 So as part of the review, I identified six key  
22 considerations, and I'll be going through each of them.  
23 So, one, that there was a narrow legislative view of  
24 rights; two, that there were gaps in the Stoney Nakoda  
25 Nations' land use as presented; three, that there was a



## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1 lack of consideration of perceptions and subsequent  
2 avoidance behaviours; four, that there were issues with  
3 mitigation; five, the overall significance,  
4 determination; and six, the conditions approval as they  
5 are proposed.

6 The first topic I will discuss is the narrow  
7 legislative view of rights. As per the EA report, the  
8 *Impact Assessment Act* came into force on August 2019  
9 and CEAA 2012 was repealed. In accordance with the  
10 transitional provisions of the *Impact Assessment Act*  
11 the environmental assessment for the project continued  
12 under CEAA 2012. While this fact is not disputed,  
13 there have been Supreme Court of Canada decisions and  
14 the implementation of the new impact assessment  
15 agency's practitioners guide, which signals a change in  
16 direction for environmental assessments moving forward.

13:16

17 This change of direction includes direct  
18 consideration of Indigenous rights rather than  
19 consideration of the exercise of that right through the  
20 narrower lens of current use of lands and resources for  
21 traditional purposes.

13:16

22 This expansion of the assessment was illustrated  
23 in Exhibit Number 288 from the Clyde River hamlet  
24 Supreme Court decision, which indicated: (as read)

25 "The consultation -- the consultative

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1 enquiry is not properly into  
2 environmental effects per se. Rather,  
3 it enquires into the impact on the right  
4 itself."

5 This was selected as a plain reading representative  
6 quote because the Clyde River decision predated the  
7 *Impact Assessment Act* and it signals that the context  
8 and scope of what was being considered by proponents and  
9 the Crown in relation to rights was being further  
10 explored.

13:17

11 Within the Stoney Nakoda Nations' submission, an  
12 example was provided: (as read)

13 "SNN Section 35 right to hunt includes  
14 much more than just the activity of  
15 hunting. Nation members indicate that  
16 hunting is a central part of SNN  
17 culture. It is grounded in respect for  
18 both land and animals and it is  
19 essential to be out on the land to  
20 access traditional sites both for the  
21 exercise of the right to hunt as well as  
22 passing down this knowledge to younger  
23 generations."

13:17

24 This means that in order to accurately assess impacts of  
25 the project on Aboriginal and Treaty rights, a term that

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1 is used within the EA report, there must be both a  
2 consideration of the exercise of the right, for example,  
3 hunting, trapping, fishing, and gathering, as well as  
4 consideration of impacts to the cultural, social, and  
5 ceremonial components of those rights.

6 This can mean looking at the potential impacts to  
7 Stoney Nakoda Nations' rights. It should not be only  
8 tied to the biophysical components but expanded beyond a  
9 species lens and instead explore the conditions  
10 necessary for the exercise of the right and the  
11 preferences of the Stoney Nakoda Nation members in the  
12 exercise of those rights.

13:18

13 It also means interweaving information on  
14 Stoney Nakoda Nations' systems for self-governance and  
15 self-determination with respect to the management of  
16 those traditional lands and resources to ensure  
17 consideration of Stoney Nakoda Nations' laws, customs,  
18 and structures is appropriately contemplated.

19 The second topic I'll discuss, which is reflected  
20 within Exhibit Number 288, is gaps in the report of  
21 Stoney Nakoda Nations' land use data and additional  
22 aspects for consideration in relation to that land use.

13:18

23 The reason this topic was explored was because even  
24 if Alberta Transportation did not expand their  
25 assessment to consider the broader aspects of

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Louden

1 Stoney Nakoda Nations' rights that we just discussed,  
2 the assessment of current use of land and resources for  
3 traditional purposes within the EIS was not fulsome on  
4 its own. This is evidenced by Stoney Nakoda Nations'  
5 Exhibit Number 310, as well as through data collected  
6 for NGTL CER projects, both 2021 and Edson, which  
7 provided additional traditional knowledge and use site  
8 information located within the project development area.

9 The previously collected land and resource use  
10 information identifies general hunting, fishing, berry,  
11 plants, and medicine gathering overlapping with the  
12 project development area. In addition, the project  
13 development area intersects ceremonial areas, camping  
14 areas, sacred sites, a family camp, and a burial ground  
15 at the western tip of the bottom of the PDA.

16 Additionally, specific traditional knowledge  
17 collected for this project identify -- marked  
18 Stoney Nakoda Nations place names, as well as 30 SNN  
19 specific-use sites within the SR1 project development  
20 area as described in Exhibit Number 310.

21 An additional consideration related to land and  
22 resource use could be the amount of land outside of the  
23 proposed land use area will be inaccessible. This  
24 inaccessible nature of the land could be through legal  
25 mechanisms, such as the granting of the disposition or

13:19

13:20

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1 similar. Increased safety restrictions that limit  
2 access or the use of firearms or preference-based  
3 avoidance from Stoney Nakoda Nations harvesters.

4 In order to understand the amount of land that was  
5 effectively lost to Stoney Nakoda Nations, the  
6 proponent, the Government of Alberta, or the impact  
7 assessment agency could calculate the amount of land  
8 that would be inaccessible through the mechanisms above  
9 and that does not intersect with the land use area.  
10 This would allow Stoney Nakoda Nations to understand the  
11 portion of their traditional territories which can no  
12 longer be accessed in the exercise of their Section 35  
13 rights.

13:20

14 The third topic within the submission was related  
15 to Stoney Nakoda Nations' preference and subsequent  
16 avoidance behaviours which can result from increased  
17 negative perceptions.

18 Many of the biophysical sections of the EIS,  
19 including the atmospheric, environment, hydrology,  
20 surface water quality, terrestrial landscape, fish and  
21 fish habitat, migratory birds, as well as the  
22 consideration of current use of lands and resources for  
23 traditional purposes do not consider the perception of  
24 Stoney Nakoda Nations members and how this can result in  
25 increased avoidance behaviours.

13:21

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1           The reason this should have been considered is  
2           perceptive effects can extend beyond the identified  
3           extent of the direct effect. For example, a perceived  
4           temporary displacement due to a temporary feature will  
5           require the harvester or land user to go elsewhere in  
6           the exercise of their Section 35 rights for the duration  
7           of that activity.

8           Once established at this new location and assuming  
9           a new location is available, there may be reluctance by  
10          Stoney Nakoda Nations harvests to reestablish at the  
11          original locale. This would result in a permanent loss  
12          of that area. It could also result in increased costs  
13          to frequent different areas through items such as fuel,  
14          which could prohibit some Nation members from exercising  
15          their Section 35 rights.

16          Additionally, the perception of the original locale  
17          as being disturbed or damaged may contribute to an  
18          ongoing avoidance of that area for the exercise of  
19          Section 35 rights beyond when it is available once  
20          again.

21          The area may vary as it establishes supporting  
22          different species as the area matures, which may not  
23          hold equal value to Stoney Nakoda Nations.

24          Additionally, the effects duration for perception  
25          may vary from those identified for the direct effects as

13:22

13:22

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Louden

1 perceptions may persist beyond the construction  
2 activities or flood events. This aspect was not  
3 considered within the EA report or the EIS. These  
4 examples illustrate why preference avoidance and  
5 perceptions should have been considered.

6 The fourth topic that I will touch upon from the  
7 review is mitigation. The issues found within the  
8 review of mitigation are twofold.

9 One, because potential impacts to Stoney Nakoda  
10 Nations' Section 35 rights were not assessed fully as  
11 part of the EIS through consideration of the full scope  
12 of Stoney Nakoda Nation rights, no mitigation has been  
13 developed in partnership with Stoney Nakoda Nations to  
14 address those specific impacts.

15 And, two, some of the proposed mitigation for the  
16 project-related impacts may result in unanticipated  
17 impacts to Stoney Nakoda Nations, and this also was not  
18 considered.

19 For the first of these issues, as impacts to  
20 Stoney Nakoda Nations' Section 35 rights were not  
21 considered in relation to preference-based impacts which  
22 could result in avoidance behaviours or a quantification  
23 of land to which Stoney Nakoda Nations has a right of  
24 access which may be impaired by the project or the  
25 social or ceremonial cultural aspects of the

13:23

13:23

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1 Stoney Nakoda Nations' rights -- because these were not  
2 contemplated, mitigation for these impacts was not  
3 developed.

4 For example, the project conditions do not  
5 contemplate offsetting land lost outside of the land use  
6 area, which could speak to the portion of the project  
7 development area which can no longer be accessed for the  
8 exercise of Section 35 rights.

9 Another issue with mitigation, as stated  
10 previously, was that some of the proposed mitigations  
11 for the project-related impacts could result in  
12 unintended impacts to Stoney Nakoda Nations. For  
13 example, within atmospheric conditions, one such  
14 mitigation identified is the reestablishment of  
15 vegetation cover on the deposited sediment  
16 post-construction.

13:24

17 The interruption time between existing vegetation  
18 and reestablishment should have been considered in terms  
19 of an interruption in the exercise of rights. This  
20 interruption could result in a displacement of  
21 Stoney Nakoda Nations harvesters and land users from  
22 this locale which they may or may not return to.

13:25

23 Another mitigation proposed which may have  
24 unintended impacts on Stoney Nakoda Nations' Section 35  
25 rights is the usage of chemical dust suppressants which



## STONE Y NAKODA PANEL #5 WITNESS

Examined by Ms. Louden

1 would be applied to haul roads as an alternative option  
2 to watering and applied on an as-needed basis during  
3 high wind conditions. This could result in negative  
4 perceptions to Stoney Nakoda Nations' harvesters and  
5 land users which could result in avoidance of the area.

6 Additionally, a further mitigation of  
7 herbicide/weed control being used to promote successful  
8 revegetation of traditional plants is incongruent with  
9 the Stoney Nakoda Nations' Section 35 right. Perception  
10 of contamination will render the successfully  
11 revegetated traditional plants unusable for traditional  
12 purposes as real or perceived contamination of replanted  
13 species means those species cannot be used.

14 The fifth topic I will touch upon and is related  
15 to --

16 THE CHAIR: Sorry, Ms. Vanderjagt, I'm just  
17 making sure that Ms. Vespa -- you're speaking fairly  
18 quickly, but just making sure it's all good there.

19 You're good, Ms. Vespa?

20 THE COURT REPORTER: If she could slow down a bit, that  
21 would be helpful, but I am --

22 THE CHAIR: Yes, keeping up.

23 Just a little bit maybe. Thanks a lot.

24 A. I'll try my best.

25 THE CHAIR: All right, yes. Thank you.

13:25

13:26

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1       A.   The fifth topic I will touch upon and related to  
2       mitigation is issues identified in our review with the  
3       potential conditions of approval. The concerns with  
4       the potential conditions can be categorized as:

5               One, since the assessment of potential impacts to  
6       Stoney Nakoda Nations' Section 35 rights and  
7       development of mitigation was incomplete, there is also  
8       an incomplete consideration of potential conditions to  
9       address these impacts or implement mitigations.

10              And two, reasonable capacity must be included as a  
11       condition of approval to ensure Stoney Nakoda Nations'  
12       participation in all the identified opportunities for  
13       involvement.

14              Conditions of approval should be drafted in order  
15       to allow Stoney Nakoda Nations a meaningful voice in  
16       the construction and operation of the project.

17              One example of a condition resulting from an  
18       assessment of potential impacts to Stoney Nakoda  
19       Nations' Section 35 rights could be a calculation of  
20       land impacted outside of the land use area and  
21       application of an appropriate condition of approval to  
22       offset that loss of land.

23              In relation to reasonable capacity, the conditions  
24       of approval outline many opportunities for  
25       Stoney Nakoda Nations' involvement. A condition of

13:27

13:27

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1 approval must be applied that requires a provision of  
2 reasonable capacity funding to support involvement in  
3 these additional opportunities or it is rendered  
4 meaningless, because Stoney Nakoda Nations does not  
5 have internal capacity to support this level of  
6 post-approval involvement.

7 An example of why Stoney Nakoda Nations'  
8 involvement is critical would be the fish through web  
9 sampling. Stoney Nakoda Nations' involvement would  
10 ensure that fish of importance to Stoney Nakoda Nations  
11 are considered. As for culturally considered species,  
12 proxies are not appropriate.

13 Finally, the last topic I will touch upon is the  
14 overall significance determination. Residual  
15 environmental effects from the project in relation to  
16 Section 5 of CEAA 2012 to current use of land and  
17 resources or traditional purposes by Indigenous people  
18 were identified as part of the assessment process.  
19 However, the agency concluded that considering the  
20 implementation of key mitigation and follow-up program  
21 measures, the project is not likely to cause  
22 significant adverse environmental effects, as defined  
23 under CEAA 2012.

24 The rationale used to identify a lack of  
25 significance does not correlate to the exercise of

13:28

13:29

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Louden

1 rights specifically.

2 Within Exhibit Number 35 at page 14.84, the EIS  
3 determined that: (as read)

4 "The effects of the project on TLRU will  
5 not result in the long-term loss of  
6 availability of traditional use  
7 resources or access to lands currently  
8 relied on for traditional use practices  
9 or the permanent loss of traditional use  
10 sites and areas in the RAA."

13:29

11 This dismisses the importance of specific sites in the  
12 exercise of harvesting rights, as well as the current  
13 levels of development which exist within the regional  
14 assessment area.

15 This assertion is made without a quantitative  
16 calculation of unoccupied Crown land or private land to  
17 which Stoney Nakoda Nations has a right of access, and,  
18 instead, relies on the assumption that, because of the  
19 availability of traditional use resources within the  
20 regional assessment area, this would not constitute a  
21 long-term loss.

13:30

22 However, availability of resources does not  
23 correlate with the ability to exercise a right, as there  
24 numerous other factors including the availability of the  
25 land in question, and the preferences of land users

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Loudon

1           which can inform potential avoidance behaviours.  
2           Therefore, the significance determination should include  
3           consideration on how Stoney Nakoda Nation Section 35  
4           rights may be more vulnerable to the effects of the  
5           project when they are added to or interact with the  
6           existing displacement within the baseline conditions.

7           Previous Stoney Nakoda Nation's experience and  
8           previous work on projects north and south of the project  
9           development area have shown that unoccupied Crown land  
10          and private land to which Stoney Nakoda Nations has a  
11          right of access to is limited. This has resulted in  
12          Stoney Nakoda Nation's harvesters and land users already  
13          being displaced.

14          Even the minimal loss presented by the project is a  
15          meaningful change which must be quantified, considered,  
16          mitigated and discussed as part of the EA report and  
17          potential conditions. Additionally, the determination  
18          of significance does not account for the location  
19          sensitivity of cultural activities.

20          In previous work completed by the Stoney Nakoda  
21          Nations, it was noted by participants that ceremonial,  
22          cultural, or sacred places are immovable. This is  
23          reflected in Exhibit 294 and 292.

24          Once the site is disturbed or destroyed, it is  
25          culturally lost. This is reflected in Exhibit Number

13:31

13:31

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Louden

1           294 and 292 as well. This does not appear to have been  
2           considered by the significance determination by Alberta  
3           Transportation and must be incorporated into the  
4           significance determination by the Impact Assessment  
5           Agency of Canada within the EA report. The process of  
6           identifying significance should be iterative and include  
7           input from the Stoney Nakoda Nations.

8           As the Stoney Nakoda Nations were not fully  
9           involved in the assessment of potential impacts to their  
10          Section 35 rights, nor in the development of mitigation,  
11          the process for determination of significance currently  
12          includes gaps.

13:32

13          As discussed in the Impact Assessment Agency of  
14          Canada's Practitioner's Guide to the *Impact Assessment*  
15          Act, aspects of Stoney Nakoda Nation's Section 35 rights  
16          should have been considered as part of the assessment  
17          and link back to criteria which can help define the  
18          severity of impact, including a discussion of how the  
19          project may impact Stoney Nakoda Nations' ability to  
20          continue customs, traditions, and practices that are  
21          integral to the Stoney Nakoda Nation's distinct culture.

13:33

22          A discussion of how existing exercise of Section 35  
23          rights may be more vulnerable to the effects of the  
24          project when the effects are added to an interaction  
25          with the baseline condition and a discussion of how the

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Louden

1 project may impact Stoney Nakoda Nation's system for  
2 self-governance and self-determination with respect to  
3 the management of traditional land and resources, taking  
4 into consideration Stoney Nakoda Nation's laws, customs,  
5 structures, and structures of the community.

6 Thank you for your time, Panel members and  
7 participants. And thank you to Stoney Nakoda Nations  
8 for providing me with the opportunity to review these  
9 filings on their behalf.

10 This concludes the information related to my  
11 review.

13:33

12 THE CHAIR: Thank you. Much appreciated.

13 And, Ms. Louden, there is no other direct you have  
14 at this time?

15 MS. LOUDEN: That is correct, sir.

16 THE CHAIR: Okay.

17 Thank you, and Mr. Secord, did you have any cross?

18 MR. SECORD: No, sir. Thank you.

19 THE CHAIR: Mr. Williams?

20 MR. WILLIAMS: No, no cross.

13:34

21 THE CHAIR: Mr. Wagner?

22 MR. WAGNER: Sorry, Mr. Chair, no questions.

23 THE CHAIR: Ms. Senek, City of Calgary?

24 MS. SENEK: No questions. Thank you.

25 THE CHAIR: Mr. Cusano.

## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Louden

1 MR. CUSANO: No thank you, sir.

2 THE CHAIR: And Mr. Kruhlak?

3 MR. KRUHLAK: Yes, sir, I'll have some  
4 questions.

5 Are we now fully operating? I'm now sort of set  
6 up at Mr. Svenson's station, so I'll go under an alias.

7 THE CHAIR: I see that, Mr. Svenson. I think  
8 we're good.

9 Did we lose Mr. Kruhlak?

10 Mr. Wiebe, I think you're back; is that right? 13:35

11 MR. WIEBE: Yeah, technical difficulties have  
12 been resolved.

13 THE CHAIR: Great. Now, can you -- should we  
14 just continue this way for now then, and can get  
15 Mr. Kruhlak back into the meeting, he can just join  
16 back afterwards then?

17 MR. WIEBE: Yes. He can just join again.

18 THE CHAIR: Okay. And can you get us back to  
19 your normal great job of getting the speakers and  
20 panels identified on the -- 13:35

21 MR. WIEBE: Oh yeah, absolutely.

22 THE CHAIR: Great. Thanks a lot, Mr. Wiebe.

23 MR. KRUHLAK: I take it we have the ability to  
24 pull up documents.

25 THE CHAIR: We do. Ms. Taylor, I think -- do



## STONEY NAKODA PANEL #5 WITNESS

Examined by Ms. Louden

1 I have that right? Ms. Taylor, you're on this  
2 afternoon?

3 MS. TAYLOR: Yes, I am, Mr. Chair.

4 THE CHAIR: Ready to go?

5 MS. TAYLOR: I am.

6 THE CHAIR: Great. Thank you.

7 Okay, Mr. Kruhlak, the floor is yours.

8 MR. KRUHLAK: With all of that, sir, I'm just  
9 asking if I could maybe take two minutes before I just  
10 start. Just grabbing some other material and checking  
11 on something. Would that be all right? 13:36

12 THE CHAIR: Yes, take a couple of minutes.  
13 Thank you.

14 And, Mr. Kruhlak, that will give you -- or, sorry,  
15 Mr. Wiebe, that will give you a chance to get the panel  
16 view up.

17 My apologies, Ms. Vanderjagt, am I pronouncing  
18 that properly?

19 So, Mr. Wiebe, if we could have Ms. Vanderjagt and  
20 Ms. Kruhlak up on speaker view if you could. 13:36

21 Mr. Wiebe, maybe at the break, Mr. Kruhlak may  
22 want to sign back in because, for whatever reason, he  
23 was out and then he couldn't get back in while you were  
24 gone, so.

25 MR. WIEBE: No worries. We'll get that

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruhlak

1 addressed.

2 THE CHAIR: Thank you.

3 MR. KRULHAK: Mr. Chairman, I'm back if it's now  
4 appropriate to proceed.

5 THE CHAIR: Yes, please proceed. Thank you.

6 **MR. KRULHAK CROSS-EXAMINES THE WITNESS:**

7 Q. Ms. Vanderjagt, good afternoon.

8 A. Good afternoon.

9 Q. Looking at your CV that you were referred to, I take it  
10 you started doing some work for the Stoney Nakoda  
11 Nations in 2019? 13:37

12 A. Yes. MNP, as a whole, does work with the Stoney Nakoda  
13 Nations, but I myself personally in 2019.

14 Q. And that was on the TransMountain project?

15 A. Yes.

16 Q. And you weren't asked to provide any assistance on this  
17 project, SR1?

18 A. The only assistance I was asked to provide was the  
19 review of the environmental assessment report, the  
20 review of the potential conditions, and the -- 13:38

21 COURT REPORTER: Sorry, we lost the end of your  
22 answer there. You said "the review of the potential  
23 conditions" and then we lost your answer.

24 A. And the submission of the same.

25 Q. MS. KRULHAK: You didn't prepare the interim

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1 traditional land use report that was submitted by the  
2 Stoney Nakoda Nations in these proceedings?

3 **A. No, I did not.**

4 **Q.** And you referred to the other reports from MNP dealing  
5 with the NOVA gas transmission project, the pipeline  
6 that are filed as part of the Stoney Nakoda Nations'  
7 submissions. But you weren't involved in those  
8 projects at all, were you?

9 **A. No, I was not.**

10 **Q.** Is it fair to say you've not conducted any site visits  
11 of the Springbank area, the project development area,  
12 as part of your evidence?

13 **A. Yes, that's fair.**

14 **Q.** And what did you -- and maybe I'll just back up.

15 You've essentially reviewed with us this  
16 afternoon -- you've taken us through your, I guess,  
17 this letter, Exhibit 288; that's correct?

18 **A. Yes, that's correct.**

19 **Q.** And this letter indicates that it was signed by  
20 Dean Cherkas who was director of consultation with  
21 Stoney Tribal Administration, but then do I take to  
22 understand that you actually wrote this letter?

23 **A. We contributed to the letter. We conducted a review of**  
24 **the EA report, and the potential conditions which will**  
25 **be submitted to the Impact Assessment Agency, and that**

13:39

13:39

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruhľak

1 review contributed to this letter.

2 Q. So for purposes of your submissions to the Board,  
3 you've not prepared any independent report that's been  
4 tendered to the NRCB?

5 A. No, that's correct.

6 Q. Now, in preparing this assessment, have you reviewed  
7 the reply document, Exhibit 324, that was prepared by  
8 Alberta Transportation in responding to some of the  
9 concerns of the Stoney Nakoda Nations?

10 A. Yes, I did review that.

13:40

11 Q. Okay. I'll take you to that shortly.

12 So in your review, Exhibit 288, you identified  
13 that -- as I understand it, there's some deficiencies  
14 in the materials of Alberta Transportation because they  
15 failed to include sufficient input from the  
16 Stoney Nakoda Nations. Do I have that right?

17 A. Yes, and that there wasn't fulsome consideration of the  
18 Stoney Nakoda Nations' rights.

19 Q. Could I have pulled up, please, document manager,  
20 Exhibit -- just give me a moment here -- Alberta  
21 Transportation reply, which is Exhibit 324?

13:41

22 And if you could turn, please, to PDF 8. If you  
23 could scroll down. I'd just like to review with you  
24 Ms. Vanderjagt paragraph 14.

25 So it says: (as read)

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1 "Under cover letter dated December 4,  
2 2017, AT provided the traditional land  
3 and resource use (the TLRU) sections of  
4 the October 2017 EIA and requested  
5 comments by January 5, 2018. In a  
6 letter dated January 15, 2018, Rae and  
7 Company wrote to CEAA and provided some  
8 comments on the original EIA. All  
9 questions and concerns listed in this  
10 letter have been responded to by AT."

13:42

11 Do you see that?

12 **A. Yes, I see.**

13 **Q.** And it says "refer to the SCRT." Did you review that?

14 **A. No, I did not.**

15 **Q.** And as the document here I'm referring to, this  
16 appendix, is largely taken from the record of  
17 consultation. Did you review that in preparing your  
18 letter and report today?

19 **A. I did not.**

20 **Q.** If I take you to paragraph 15: (as read)

21 "Under cover letter dated January 26,  
22 2018, AT notified Stoney Nakoda Nation  
23 that project timelines had been extended  
24 by 60 days to undertake further  
25 Indigenous engagement activities. AT

13:43

**STONEY NAKODA PANEL #5 WITNESS**

Cross-examined by Mr. Kruh1ak

1 proposed holding a full day TLRU  
2 workshop to gather feedback from  
3 Stoney Nakoda Nation to incorporate into  
4 the revised EIA. Under cover dated  
5 February 6, 2018, the revised draft TLRU  
6 sections were provided for comment.  
7 TLRU workshops were held with  
8 Stoney Nakoda Nation on February 12th,  
9 2018, and March 20th, 2018.  
10 Stoney Nakoda Nation did not provide  
11 permission to use the information  
12 collected at these workshops for the  
13 EIA."

13:44

14 Were you aware that?

15 **A. I did review this document, so I was aware, yes.**

16 **Q. Did you make enquiries why that information wasn't**  
17 **provided?**

18 **A. No, I did not.**

19 **Q. So if that information was provided, would it address**  
20 **some of the gaps you referred to in your letter report,**  
21 **Exhibit 288?**

13:44

22 **A. I'm not aware of what information would have been**  
23 **included in what was not provided, but there is**  
24 **potential that it could have addressed Item Number 2,**  
25 **which is gaps in the Stoney Nakoda Nations' land use.**

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1           But, again, I'm not aware of what the information is  
2           that was not provided.

3       Q. Paragraph 16, if I could scroll over there, reads much  
4       of seeking the additional information and addressing  
5       it.

6           And then if I could just take you to paragraph 17,  
7       and I won't take you through entire appendix which  
8       cites different interactions between AT and the  
9       Stoney Nakoda Nations, but paragraph says: (as read)

10           "AT sent a letter dated January 28,  
11           2019, requesting information to assist  
12           in responding to CEAA (C-E-A-A)  
13           information requests..."

13:45

14       And it lists several IRs:

15           "...Stoney Nakoda Nation did not respond  
16           to this request for information. Below  
17           is an excerpt from the January 28th,  
18           2019, letter."

19       And then the balance of this paragraph quotes from the  
20       letter seeking input on Number 1. It says: (as read)

13:45

21           "Please provide your views on the nature  
22           and extent of Stoney Nakoda Nations'  
23           Aboriginal and Treaty rights and how the  
24           project may adversely impact these  
25           rights."

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1 Do you see that?

2 **A. Yes, I see that.**

3 **Q. And Number 2: (as read)**

4 "Please discuss potential effects of the  
5 project on cultural and experiential  
6 values, including changes to cultural or  
7 spiritual connections to the land and  
8 water, and changes in cultural land use  
9 and experience of traditional use. For  
10 example, cultural identity,  
11 intergeneration transfer of knowledge,  
12 governance, quiet enjoyment of the  
13 land."

13:46

14 Do you see that?

15 **A. Yes, I see that.**

16 **Q. And: (as read)**

17 "Please discuss the importance of  
18 country foods in the project area to the  
19 Stoney Nakoda Nations, including what  
20 country foods within the project area  
21 are relied on and how country foods  
22 within the project area contribute to  
23 physical, mental, and spiritual  
24 wellbeing."

13:46

25 Do you see that?



## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1       **A. Yes, I see that.**

2       **Q. So you'd agree, Ms. Vanderjagt, that had some of this**  
3       **information been provided, it might well have addressed**  
4       **some of the gaps or deficiencies you identified in this**  
5       **letter report dated -- or Exhibit 288?**

6       **A. Yes, I do agree that had this information been**  
7       **provided, it would have addressed many of the issues.**  
8       **Unfortunately, I'm not speaking to this specific**  
9       **instance because I'm not aware of the capacity provided**  
10       **by Alberta Transportation to Stoney Nakoda Nations.**

13:47

11               **But in many cases, these asks are put forth by**  
12       **proponents without sufficient capacity provided to the**  
13       **Nations in order to provide that information back or**  
14       **there may be other contributing factors.**

15       **Q. Fair enough. And you weren't advised that there was**  
16       **actually funding available for the Stoney Nakoda**  
17       **Nations to complete this work? They were given a**  
18       **budget and advanced monies, and there were still monies**  
19       **available to them that they did not request?**

20       **A. I have no insight into the financial status or**  
21       **agreements.**

13:48

22       **Q. I'd just like to return to your Exhibit 288 for a**  
23       **moment. In discussing the significance determination,**  
24       **you mentioned on PDF 5 of this exhibit -- and I don't**  
25       **know that we need to bring it up this moment -- Zoom**

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1 host, you could probably take down this document that I  
2 had -- yes, thanks -- that you indicated previous SNN  
3 experience in previous work on projects north and south  
4 of the project area is shown on unoccupied Crown land  
5 and private land to which the SNN has a right of access  
6 is limited. Do you recall explaining that to the  
7 Board?

8 **A. Yes.**

9 Q. And I take it what you're referring to there is the  
10 NOVA Gas pipeline projects?

13:49

11 **A. Yes.**

12 Q. And you're aware those projects were on Crown land?

13 **A. They were -- there was portions of the projects on  
14 Crown land and portions of the project not as well.**

15 Q. And are you aware that essentially almost all of this  
16 project is on private land? There's a very small  
17 portion of Crown land?

18 **A. Yes, I am aware.**

19 Q. You make reference to perceptions and avoidance. You  
20 didn't conduct an avoidance survey, did you?

13:50

21 **A. No, not for this project.**

22 Q. And you'd agree with me that the interim land use  
23 assessment that was tendered by the Stoney Nakoda  
24 Nations made no reference to avoidance?

25 **A. Yes, I agree.**

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1 Q. Now, zoom host, could I ask you to pull up this letter  
2 that we've been talking about, Exhibit 288, please?

3 Now, this is the letter that you read from,  
4 Ms. Vanderjagt.

5 Could I ask you to turn to, zoom host, the maps  
6 starting at PDF 9?

7 So this is what I believe, Ms. Vanderjagt --  
8 you're looking at a map that depicts burial grounds and  
9 medicine-gathering sites by the Stoney Nakoda Nations;  
10 is that correct?

13:51

11 A. Yes.

12 Q. And I take it you prepared this map?

13 A. MNP prepared this map, yes.

14 Q. And it shows -- if the green area, as I see on this, is  
15 the project site, there's a very small intersection at  
16 the far western tip, southwestern tip of the project  
17 development area and the identification here, burial  
18 grounds; correct?

19 A. Yes, correct.

20 Q. Okay. If I could then turn to the next PDF, 10,  
21 please?

13:51

22 This map was also prepared by MNP?

23 A. Yes.

24 Q. And this is -- I take it this is the first that I --  
25 that you're aware of that this information was

## STONE Y NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1 transmitted to Alberta Transportation under -- with  
2 the -- under this report dated February 26, 2021?

3 **A. Yes. It was previously collected information that was**  
4 **provided in that submission.**

5 Q. I'm just a little confused when I look at this map.  
6 Under the legend, Ms. Vanderjagt, it says "SNN TLU.  
7 NGTL 2021." I just thought that acronym for NGTL  
8 appears to be the NOVA Gas line. Isn't that it?

9 **A. Yes, that's correct. The previously collected data**  
10 **that's displayed was collected for that project, and if** 13:52  
11 **you refer back to the one before, the previously**  
12 **collected data I believe was from the west path**  
13 **project.**

14 Q. So this is data collected from other projects, it's  
15 just superimposed over the project development area?

16 **A. Yes. It was to illustrate gaps in the un --**  
17 **traditional land use information collected.**

18 Q. And just so I'm -- make sure I understand. So the  
19 information I see here, is this supported by site  
20 assessment reports? 13:53

21 **A. Not for the Springbank project.**

22 Q. Okay. Ms. Vanderjagt, was MNP also responsible for  
23 preparing the -- the review of the environmental impact  
24 assessment that was tendered as part of the  
25 Stoney Nakoda's submissions?

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1       **A. We were not.**

2       Q. Okay. So the response that is within  
3       Alberta Transportation's response document, Exhibit 324  
4       to the concerns raised, that didn't involve MNP at all?

5       **A. No, we only supported the development of**  
6       **Exhibit Number 288.**

7       MR. KRHLAK:                   Mr. Chairman, if you just give me  
8       a moment, I'm just going to check my notes before I  
9       wrap up.

10      THE CHAIR:                   Yes, sir.

13:54

11      MR. KRHLAK:                   Zoom host, you can remove that  
12      exhibit that's on the screen. Thank you.

13      Q. Ms. Vanderjagt, I also see that you've, in your report,  
14      suggested some mitigation and steps that could be taken  
15      to address what you identified, some of the  
16      deficiencies?

17      **A. Yes.**

18      Q. And in that regard, are you aware of the efforts to  
19      create a future land use plan that can attempt to  
20      safeguard traditional uses on the land by Indigenous  
21      groups?

13:56

22      **A. Yes, I am aware of that plan.**

23      Q. Have you reviewed the draft guiding principles and  
24      direction for land use?

25      **A. I have not.**

## STONE Y NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1 Q. I'd also like to refer you to the opening statement  
2 that was tendered by Alberta Transportation, which is  
3 Exhibit 353.

4 Are you aware that Alberta Transportation has  
5 already undertaken to facilitate additional site visits  
6 to the Stoney Nakoda Nations before constructions to  
7 review habitations and camping areas and ceremonial and  
8 sacred sites that were identified in the interim  
9 traditional land use report?

10 A. I am aware through viewing the hearing that that is  
11 something that's been undertaken.

13:57

12 Q. And as you sometimes carry out consultation work for  
13 proponents, you would agree with me that's certainly a  
14 sound and reasonable approach at this stage?

15 A. It is a reasonable approach for AT to take. It's also  
16 reasonable for Stoney Nakoda to continue to oppose the  
17 project despite those attempts.

18 Q. Regardless of what is -- what efforts are made, it  
19 should continue to oppose the project, is that what  
20 you're saying?

13:57

21 A. No. I'm saying that the procedural aspects of  
22 consultation aside, there may still be objections that  
23 cannot be addressed through process alone.

24 Q. Okay. But you've suggested in your report some  
25 appropriate mitigation?

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruhlak

1       **A. Yes.**

2       **Q.** And you would also recognize that in this same  
3       Exhibit 353, Alberta Transportation's already  
4       endeavored to assist the Stoney Nakoda Nations in  
5       completing and finalizing their traditional land use  
6       assessment and invites them to submit the final report  
7       for response, review, and to address appropriate  
8       mitigation?

9       **A. Yes, I'm aware of that.**

10      **Q.** Thank you, Ms. Vanderjagt, I think those are my  
11      questions of you.

12      **MR. KRUHLAK:**                   Just before I conclude, I will  
13      just advise Ms. Loudon that I believe that undertaking  
14      you requested should be -- have been sent to you. If  
15      not by now, it should be momentarily. Thank you.

16      **THE CHAIR:**                    Thank you, Mr. Kruhlak. That is  
17      all the questions from Alberta Transportation then?

18      **MR. KRUHLAK:**                   That's correct, sir.

19      **THE CHAIR:**                    Thank you.

20                    Ms. Vance, do you have any questions from the  
21      Board?

22      **MS. VANCE:**                    I don't. Thank you, sir.

23      **THE CHAIR:**                    And Mr. Kennedy?

24      **MR. KENNEDY:**                   And me neither, thank you.

25      **THE CHAIR:**                    Mr. Ceroici?

13:58

13:59

## STONEV NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1 MR. CEROICI: I don't have any questions. Thank  
2 you, Mr. Chair.

3 THE CHAIR: Ms. Roberts?

4 MS. ROBERTS: I have no questions. Thank you.

5 THE CHAIR: And Dr. Heaney?

6 MR. HEANEY: I have no questions. Thank you.

7 THE CHAIR: And I have no questions,  
8 Ms. Vanderjagt. Thank you very much. And thank you,  
9 Ms. Louden. Do you have --

10 MS. LOUDEN: Yes, thank you, sir. 13:59

11 THE CHAIR: Sorry, I was going to ask if you  
12 have any redirect.

13 MS. LOUDEN: I do not. And my apologies, my  
14 video says "unable to start," so you cannot see me, but  
15 we do not have any redirect.

16 THE CHAIR: Okay. And do you -- I can hear  
17 you fine, so that's good. Thank you, Ms. Louden.

18 And I would like to thank -- this is your last  
19 opportunity, on the direct at least, on -- for the  
20 topics, so thank you, Mr. Rae, and your panel members 14:00  
21 for participation at the hearing. All did a great job.

22 And a special thanks to Elders Holloway, Wesley,  
23 and Snow for their participation and also their  
24 prayers. So thank you very much, and please pass along  
25 the Panel's thank yous to them as well.



## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1 MS. LOUDEN: We will do so. Thank you very  
2 much, Mr. Chair.

3 THE CHAIR: Okay. We can then move on to SCLG  
4 with Mr. Secord. Or I'm assuming it's Mr. Secord,  
5 unless it's Ms. Okoye.

6 MR. SECORD: Sure. I've got one preliminary  
7 matter, and then Ms. Okoye will be doing the direct.

8 I sent to Ms. Friend transcript corrections from  
9 Dr. Fennell. You will recall yesterday that he had an  
10 undertaking to review the transcript and make any  
11 corrections as a result of that clay/till correction to  
12 Slide 14 in his PowerPoint. I just wonder whether  
13 those transcript corrections could be marked as an  
14 exhibit?

14:01

15 THE CHAIR: Everyone has received those, and  
16 if so, any objections?

17 MR. BARBERO: Mr. Chair, Michael Barbero,  
18 McLennan Ross. We've received them just in the last  
19 few minutes, so I've not a chance to review them, but  
20 no objection to them going in as an exhibit, sir.

14:01

21 THE CHAIR: Any other objections? Not other,  
22 but any objections? Thank you.

23 Okay. Thank you. Ms. Friend, what number would  
24 that be?

25 MS. FRIEND: Okay. The next number is 400

## STONEY NAKODA PANEL #5 WITNESS

Cross-examined by Mr. Kruh1ak

1 THE CHAIR: We've made it to 400.

2 MS. FRIEND: Is that a good thing or not?

3 THE CHAIR: I'm not sure, actually.

4 **EXHIBIT 400 - ERRATA 1 FOR EXHIBIT 395**

5 MR. SECORD: I'll turn it over Ms. Okoye. And  
6 I think we may be splitting our panel up, but,  
7 Ms. Okoye, over to you.

8 THE CHAIR: And, Ms. Okoye and Mr. Secord, you  
9 had 60 minutes. Is that still your intention to have  
10 this completed within the 60 minutes? I think I have  
11 that right.

12 MR. SECORD: Ms. Okoye?

13 MS. OKOYE: Yes. Good afternoon, Mr. Chair.  
14 Yes, that is the intention, but there is a slight  
15 modification to that.

16 Dr. Osko has a family emergency, a medical  
17 emergency that he needs to attend to, so we are  
18 proposing, if that's okay with you, to have him give  
19 his evidence and then get cross-examined, and then he  
20 can proceed, and then we can deal with the rest our  
21 witness panel, if that's acceptable.

22 MR. BARBERO: Mr. Chair, Michael Barbero,  
23 Alberta Transportation. Yes, of course, we're happy to  
24 accommodate that, absolutely.

25 MS. OKOYE: Okay, thank you.

14:02

14:02

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 THE CHAIR: Thank you. Please proceed on that  
2 basis, thank you.

3 MS. OKOYE: Thank you. So I'll first propose  
4 that we -- Dr. Terry. Dr. Terry, I believe you want to  
5 be affirmed?

6 MR. OSKO: Yes, that would be fine.

7 MS. OKOYE: Madam Court Reporter, could you  
8 please affirm him.

9

10 T. OSKO (For SCLG), affirmed

14:04

11 MS. OKOYE EXAMINES THE WITNESS:

12 Q. MS. OKOYE: So Dr. Osko is a professional  
13 agrologist and a wildlife ecologist, and he reviewed  
14 the project's potential to introduce weeds, the impacts  
15 of weeds on land use and the necessity for weed  
16 management in the project area.

17 Dr. Osko, I'm referring you to your CV filed as  
18 Exhibit 274 and your report filed as 273. Were these  
19 documents prepared by you or under your direction or  
20 control?

14:04

21 A. Yes, they were.

22 Q. Are there any changes that you would like to make to  
23 the documents at this time?

24 A. No.

25 Q. Are they accurate to the best of your knowledge and

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 belief?

2 **A. Yes.**

3 **Q. And do you adopt them as your evidence, part of your**  
4 **evidence in this proceeding?**

5 **A. Yes, I do.**

6 **Q. Do you acknowledge that you have a duty to provide**  
7 **opinion evidence to the Board that is fair, objective,**  
8 **and non-partisan?**

9 **A. Yes.**

10 **Q. Please provide the Board with a brief summary of your**  
11 **professional qualifications and experience.**

14:05

12 **A. Certainly. I have a PhD from the University of Alberta**  
13 **in wildlife ecology and management in addition to**  
14 **master's and bachelor's degrees in agriculture,**  
15 **specializing in rangeland management and animal**  
16 **science.**

17 **I've operated a consulting business since 1994,**  
18 **through which I have developed, coordinated, and**  
19 **executed applied research programs for energy-related**  
20 **construction and reclamation producing best practices**  
21 **for industry.**

14:05

22 **I've completed studies of long-term vegetation**  
23 **responses to industrial disturbances, reclamation**  
24 **treatments, and wildlife grazing, and I have completed**  
25 **wildlife habitat studies.**

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 I have developed various forest reclamation  
2 monitoring protocols, contributed to the  
3 forested -- contributed to forested land management,  
4 completed rangeland vegetation surveys and management  
5 plans, and conducted pre-disturbance land assessment  
6 and clubroot management surveys on agricultural lands.

7 I've previously collaborated with various  
8 government agencies, industry partners, NGOs, and  
9 First Nations groups.

10 I have previously appeared as an expert witnesses  
11 on noxious weeds and invasive species before the Alberta  
12 Surface Rights Board and the Impact Assessment Agency  
13 of Canada Joint Review Panel.

14:06

14 I also continue to operate a small farm with my  
15 family since 1998.

16 As mentioned, a full copy of my CV has been  
17 included at Exhibit 274.

18 Q. Thank you, Dr. Osko. Could you please provide the  
19 Board an overview of your evidence and findings in this  
20 matter.

14:06

21 A. Yes. Thank you, Mr. Chair and Panel members, and I  
22 appreciate the accommodation you've given me to be  
23 cross-examined immediately.

24 I'd like to begin by making some general  
25 observations about weeds and how the issue of weeds and

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1           invasive species seems to be generally treated in  
2           Alberta.

3           Weed prevention and management is much more  
4           difficult than most people typically consider. The  
5           evidence for that is weeds seem to be everywhere. So I  
6           doubt that there is a major project in Alberta where  
7           the proponents have not promised to meet the *Alberta*  
8           *Weed Control Act* regulations or to follow standard weed  
9           management practices such as using licensed herbicide  
10          applicator.

14:07

11          The question, then, is how has that worked out.  
12          Well, just as I -- as I just said, weeds seem to be  
13          everywhere. So promising to adhere to provincial weed  
14          regulations has not prevented weeds from showing up on  
15          major projects in Alberta, and it's doubtful that it  
16          has prevent weeds from escaping the boundaries of those  
17          projects.

18          The facts that weeds seem to be everywhere  
19          probably contributes to the general lack of seriousness  
20          given to that issue. So I'd like to state upfront that  
21          I'm not questioning Alberta Transportation's good  
22          intentions for control and management of weeds, but I  
23          would like to refer here to a few of the replies  
24          provided by AT in my evidence report that support the  
25          notion that weeds are generally not taken that

14:08

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 seriously.

2 So I'm referring here to Exhibit 325, PDF page 57,  
3 in paragraph 203, AT states that had I -- (as read)

4 "Had Dr. Osko completed a baseline  
5 study, that (I) would know that weeds  
6 are already present in the LAA and RAA."

7 The fact of the matter is that I knew full well that  
8 weeds existed in the LAA and the RAA by examining AT's  
9 baseline study, and I quoted data from their baseline  
10 study in my report.

14:09

11 But the point is not whether weeds already exist  
12 within the LAA and RAA but whether the project will  
13 exacerbate or multiply the existence of weeds in those  
14 areas and impose additional weed management burdens to  
15 adjacent landowners and municipalities as well as  
16 additional ecological burdens to sensitive landscapes.

17 And the evidence that weeds are not taken that  
18 seriously is that no one would make a similar argument  
19 for any other parameter. For example, no one would  
20 dismiss the pollution potential of an additional  
21 industry discharging into a river by saying that the  
22 river is already polluted, yet it seems okay to argue  
23 that since weeds already exist in an area, we can  
24 introduce another potential source of weeds onto the  
25 landscape. That argument does not follow.

14:09

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1           This argument was repeated in the context of  
2 releasing weed seeds from the water -- with water from  
3 the reservoir in paragraph 207(ii) on page 295. AT  
4 states: (as read)

5           "AT does not accept that the released  
6 water, a source of which is the  
7 Elbow River, will be an additional  
8 source of weed seed distribution when  
9 returned to the Elbow River. Released  
10 water will likely contain weed seeds  
11 when diverted. Many of the weeds  
12 observed in the PDA during baseline  
13 project surveys are also capable of wind  
14 and animal dispersal and are likely  
15 currently present downstream of the  
16 PDA."

14:10

17           So the last sentence is pretty much the same argument I  
18 described above, which, again, is a non sequitur.

19           But I'd like to focus on the first two sentences  
20 where AT argues that since weeds came in with the river  
21 water, it is perfectly fine to release them with the  
22 river water. Now -- and my question, is there any other  
23 potentially harmful material to which this argument  
24 would apply?

14:10

25           For example, if a couple of barrels of aviation



## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 fuel dislodged from a forest refuel cash by flood waters  
2 ended up in the reservoir, AT would not simply toss them  
3 over the dam under the pretense that it came in with the  
4 river water and therefore they can go back in the river.  
5 But even natural materials such as driftwood would not  
6 managed in this way. Uprooted trees and other debris  
7 would not be collected from reservoir and tossed back  
8 into the river, yet somehow it's acceptable to release  
9 noxious and prohibited noxious weeds now under AT or  
10 perhaps AEP control back into the river.

14:11

11 Finally in paragraph 204 on page 57, AT seems to  
12 argue that I'm expecting too much as an EIA process  
13 stating: (as read)

14 "With respect Dr. Osko fails to account  
15 for the context of the EIA and the level  
16 of detail that goes into such a  
17 document. The EIA sets out standard  
18 practices at a level of detail that is  
19 commensurate with an environmental  
20 impact assessment. Refinement and  
21 further development of the exact  
22 approaches to be taken were not  
23 evaluated beyond consideration of the  
24 potential effects."

14:12

25 So I'd like to channel a little bit of Ms. Beckmann's

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 presentation from Tuesday here where she argued that the  
2 EIS did not provide enough information for the  
3 Stoney Nakoda people to adequately assess the effects of  
4 the project on their particular concerns of interest.

5 In much the same way I found there to be much too  
6 little information for me to be confident in AT's  
7 conclusions regarding the effects of the SR1 project on  
8 weed introduction and dispersal.

9 So based on AT's argument in paragraph 204, weed  
10 concerns actually may not be taken seriously enough by  
11 the EIA process, if not by AT. In any case, I'm puzzled  
12 that, on the one hand, there was insufficient  
13 information presented within the EIA for a third-party  
14 assessor to be confident that potential impacts  
15 regarding weeds were adequately assessed and mitigated  
16 while, on the other hand, the proponent can confidently  
17 state that impacts are minimal based on the same  
18 insufficiency of information.

19 When it comes to weed management, most actions tend  
20 to be reactive rather than preventative, even though  
21 prevention has been proven to produce better results at  
22 less costs.

23 AT has recognized that the project has the  
24 potential to introduce weeds in several ways and alter  
25 native vegetation communities.

14:13

14:13

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1           AT has also proposed some measures to prevent  
2 introduction of weeds onto the project area, but most of  
3 the proposed mitigations focused on reactive management  
4 of weeds once they've established.

5           The most glaring omission in AT's proposed  
6 mitigations was any measures whatsoever for the  
7 prevention of weed dispersal beyond the project area.  
8 For example, AT stated that vehicles and equipment would  
9 be weed free upon arrival to site but did not mention  
10 anything about cleaning the vehicles leaving the site, 14:14  
11 even though they acknowledge that the soils that they'll  
12 be disturbing will contain weed seeds or other bad  
13 parts.

14           Mr. De Carlo confirmed yesterday that there were no  
15 plans as yet for cleaning vehicles or equipment leaving  
16 the site.

17           Another serious concern that was sparsely addressed  
18 was the post-flood sediments where weed invasions could  
19 potentially explode. AT proposed very little to prevent  
20 this specific threat, including such passive potential 14:14  
21 strategies as doing nothing and waiting to see what  
22 happens, which belies a sense that AT does not really  
23 know what to do about the flood sediments. Being  
24 ill-prepared for the eventuality of explosive weed  
25 invasion will quite certainly result in spread of the

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1           problem to adjacent lands.

2                   Finally, AT mentioned monitoring and adaptive  
3 management as part of their mitigation strategy.

4                   As Dr. Fennell remarked on Tuesday, monitoring is  
5 not mitigation, and by the time you detect things, it  
6 can be too late. Waiting to see what happens before  
7 applying the weed management practice of the day can  
8 predictably result in the problem getting out of hand  
9 and escaping beyond an agency's designated  
10 jurisdictional boundary.

14:15

11                   Proactively researching and preparing preemptive  
12 plans will reduce that risk, yet most of what I've read  
13 and heard so far points to the wait-and-see option,  
14 notwithstanding some of the clarifications I heard this  
15 morning.

16                   I gave an overview of the economic and ecological  
17 consequences of weeds in my report. The consequences of  
18 weed invasion can range from a mere nuisance, such as  
19 weeds in your lawn or garden, to wholesale alteration of  
20 ecosystems where changes to vegetation communities and  
21 soils prevent return to pre-existing natural condition  
22 within reasonable human timeframes.

14:16

23                   Of relevance to this project is the ecological  
24 context within which the project will exist.

25                   The project is situated along a major river that

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 provides valued fisheries and other important ecological  
2 goods and services.

3 The project is also situated within an area of high  
4 conservation value lands, including diminishing fescue  
5 grasslands of a type that do not occur elsewhere in  
6 Canada, thereby increasing the cultural as well as the  
7 ecological value of these lands.

8 Such context raises the importance of weed and  
9 invasive species' prevention and management for this  
10 project in comparison to other projects situated in less  
11 sensitive landscapes. 14:17

12 My report presented a general overview of numerous  
13 vectors by which weeds can be introduced to and  
14 dispersed from the project area and how these vectors  
15 relate to the project specifically. I also provided  
16 more detailed analysis of weed dispersal risks  
17 associated with a sample of specific project components.

18 The risks identified point to the omission of such  
19 considerations by AT and raise sufficient doubt that the  
20 potential impacts of weed and invasive species would be  
21 restricted to the LAA. 14:17

22 The project is likely to result in perpetual  
23 discharge or dispersal of small quantities of weeds and  
24 invasive plant propagules during dry operations  
25 interspersed with bursts of greater dispersals during

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 construction and post-flood events.

2 In any case, weed dispersals from the project area  
3 can be expected to be in excess of the base line  
4 conditions resulting in increased ecological burden to  
5 adjacent lands and increase financial burden to their  
6 occupants or stewards.

7 AT, having concluded that weed impacts would be  
8 restricted to the LAA, leaves the impression that those  
9 imposed burdens will be of no concern to AT.

10 My report introduced concepts for comprehensive  
11 weed management that integrate preventative and control  
12 measures based on weed species' ecological and dispersal  
13 mechanisms. Specifically, knowledge of dispersal  
14 mechanisms can inform both search efforts for the  
15 control of existing weeds as well as the development of  
16 interventional practices to disrupt dispersal mechanisms  
17 and prevent weed spread.

14:18

18 These can and need to be applied at both the local  
19 and regional scales to adequately prevent weed  
20 invasions, reduce the impacts of invasions when they do  
21 occur, and increase the resiliency of already invaded  
22 lands to future invasions.

14:18

23 Many resources exist from organizations within  
24 Alberta and from other jurisdictions that can be  
25 modelled for adoption for this project.

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1           As I mentioned earlier, I do not doubt it in the  
2           least AT's good intentions for management and control of  
3           weeds and invasive species; however, merely adhering to  
4           standard practice will result in increased weed  
5           establishment and spread beyond the project boundaries.

6           Should the SR1 project be approved, it represents  
7           an opportunity to do better in protecting Alberta lands  
8           from invasive species.

9           Given the context of the specific location, it  
10          would be a shame that AT did not demonstrate leadership  
11          in establishing a better than standard practice for the  
12          protection of lands on behalf of Albertans.

13          That concludes the summary of my evidence.

14          Q. Thank you, Dr. Osko. I believe you have been following  
15          the proceedings to date, including reviewing  
16          transcripts of proceedings from cross-examination of  
17          panel members?

18          A. Yes.

19          Q. Do you have any comments to make regarding AT panel  
20          experts' responses to cross-examination questions?

21          A. Yes, I have a number of responses or comments.

22                 So, first, regarding weed-free materials.

23                 The AT panel stated yesterday that it is not  
24                 possible to acquire weed-free aggregate. That is  
25                 probably true with respect to certified weed-free

14:19

14:20

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 material. However, I understand the M.D. of Ranchland  
2 Number 66 has a gravel pit inspection program which  
3 demonstrates that diligence and responsible selection  
4 of material sources, the lowest risk for weed  
5 introduction, is still an obvious option. I would  
6 recommend that AT entertain such options.

7 Regarding the flood berm construction materials,  
8 Mr. Wood stated yesterday that most of the materials  
9 for construction at the floodplain berm will be sourced  
10 locally there, which contradicts the written statement  
11 regarding such materials in the project description,  
12 which is Exhibit 20, PDF page 85 which states: (as read)

14:21

13 "The berm will be constructed from soil  
14 material excavated from the diversion  
15 channel and hauled to site."

16 So there may be an appendix somewhere indicating this  
17 change, but I could not locate it. Furthermore, I did  
18 not come across any figures that identify or source the  
19 location local to the berm. So this is frustrating in  
20 that it's difficult to assess something that is  
21 different from what is stated in the written materials.

14:21

22 In addition, using a source local to the berm  
23 location would likely raise some additional questions  
24 for me that I can't look into now because I don't know  
25 anything about that source, its location or what's to be



## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 done at the borrow site.

2 The next comment is with respect to the discharge  
3 of weeds with river water and the reservoir relative to  
4 the *Weed Control Act*. And I just want to return to this  
5 briefly.

6 It just seems to me that having taken custody of  
7 weed seeds with the diverted water, the operator has  
8 also taken responsibility for them. As such, it would  
9 be an abdication of that responsibility to just release  
10 them from the reservoir with the diverted water.

14:22

11 I understand that filtration raises design concerns  
12 in the flood discharge situation, not to mention the  
13 impact on fish, but, nevertheless, this seems to be the  
14 one that needs to be considered.

15 Q. Thank you, Doctor.

16 A. There's one more.

17 Q. Okay.

18 A. Finally, I'd just like to address some of  
19 Mr. De Carlo's responses regarding potential weed  
20 dispersal from the project area during  
21 cross-examination yesterday which seemed to affirm to  
22 me that any mitigation of potential weed escape from  
23 the project was willfully omitted. Furthermore, his  
24 comments implied abdication of responsibility for  
25 escape of weeds from the site.

14:23

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 I'd just like to use an illustration. Alberta  
2 Transportation has stated in their assessments that  
3 weed seeds will be present in the existing topsoil seed  
4 bank. AT has stated that they are going to place that  
5 weed-seed-bearing soil on the slopes of a 4-kilometre  
6 long earthen dam. It further stated that there is  
7 erosion risk to the surface soil applied to that dam.

8 Finally, they'll replace drainage ditches at the  
9 bases of that dam to collect runoff water coming off of  
10 the slopes, and they'll discharge that water into the  
11 downstream system. So it's perfectly obvious that  
12 weed-seed-laden soil will wash into these drainage  
13 ditches from the dam slopes and be discharged into the  
14 river and be transported who knows, how far, or where.

15 So based on the reference in my report, weed seeds  
16 occur in soil at an abundance of about 30,000 to 80,000  
17 seeds per metre squared, but that number can easily  
18 double.

19 According to Exhibit 180, PDF page 190, the  
20 surface area of the off-stream dam was at least 585,000  
21 metres squared. This area would yield a conservative  
22 potential estimate of about 18 to 47 billion weed  
23 seeds.

24 So if only 10 percent of those seeds eroded from  
25 the dam slopes and entered the drainage system, that

14:23

14:24

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 would be in the neighbourhood of 2 to 5 billion weed  
2 seeds entering the river system. Introduction of new  
3 weeds onto the downslopes, which is entirely plausible,  
4 would prolong this discharge.

5 So this is precisely why I recommended in my  
6 report that water discharging from the low-level outlet  
7 be filtered. And I'm guessing that a filtration system  
8 that operates during -- only during non-flood  
9 conditions would not be an impossible design feat. Yet  
10 Mr. De Carlo stated yesterday that AT cannot be  
11 responsible for managing surrounding properties, even  
12 though it is clearly obvious that they will potentially  
13 be pumping out weed seeds by the billions onto lands  
14 outside of the PDA by a multiple of vectors.

15 It seems to me that if the project will result in  
16 the weed establishment and dispersal above the baseline  
17 conditions, the project operator should acknowledge  
18 responsibility for management of those escaping weeds.  
19 Instead, according to Mr. De Carlo, AT will place all  
20 trust for prevention of weed dispersal in a management  
21 plan for onsite weeds that does not yet exist.

22 It is hard for me to understand how one can place  
23 such confidence in a non-existing plan. And I suppose  
24 that that summarizes the entirety of my assessment in a  
25 nutshell.

14:25

14:25

## SCLG PANEL #5 WITNESS

Examined by Ms. Okoye

1 Q. Thank you, Dr. Osko.

2 Dr. Osko is available for cross.

3 Can you hear me very well, Ms. Vespa?

4 THE CHAIR: Yes. Thank you, Mr. Osko.

5 Ms. Okoye.

6 I'm making the assumption that Stoney Nakoda,  
7 Calalta and Mr. Wagner have no questions at this time?

8 MR. WILLIAMS: That's correct for Calalta.

9 MS. LOUDEN: This is Sara Louden. That is  
10 correct. We have no questions. 14:26

11 MR. WAGNER: Correct, Mr. Chair. This is  
12 Scott Wagner.

13 THE CHAIR: Thank you. Ms. Senek?

14 MS. SENEK: No questions, thank you.

15 THE CHAIR: Mr. Cusano?

16 MR. CUSANO: No questions, sir, thank you.

17 THE CHAIR: Mr. Barbero?

18 MR. BARBERO: Mr. Chair, Alberta Transportation  
19 will have a few questions. Given that Mr. Osko needs  
20 to leave quickly, if I could have one minute just to  
21 focus in on only the most important ones? 14:27

22 THE CHAIR: Take that. I just have -- we'll  
23 see if the Board has any questions in the meantime, if  
24 you don't mind?

25 MR. BARBERO: Yes, of course, sir. Thank you.

## SCLG PANEL #5 WITNESS

Questioned by Ms. Vance

1 THE CHAIR: I don't believe so. Ms. Vance,  
2 did you have any questions?

3 MS. VANCE: If I could ask a really quick one.

4 **MS. VANCE QUESTIONS THE WITNESS:**

5 Q. Dr. Osko, one of the recommendations you make is  
6 Recommendation 5. I couldn't tell you what the PDF  
7 page is because I have the hard copy. But I'll just  
8 read it to you. One of the recommendations is:  
9 (as read)

10 "To instill a filtration system on the  
11 low-level outlet to filter weed seeds  
12 from the outlet discharge."

13 I believe we had some questions and responses from  
14 Ms. Okoye and AT yesterday, and I just wanted to put the  
15 question out there. Is, you know, the competition  
16 appears to be between a filter that would prevent weed  
17 seeds but not fish, and I'm just wondering if you know  
18 of such a thing?

19 A. No, I think in -- no, I don't know of such a thing. I  
20 think that would be a tradeoff decision that would have  
21 to be made. But as Ms. Okoye mentioned yesterday, the  
22 bulk of the dam's operations would be during non-flood  
23 conditions, so a possible tradeoff would be to have a  
24 filtration system that's operable during those times,  
25 and that would be removed -- I mean, you would have

14:27

14:28

## SCLG PANEL #5 WITNESS

Cross-examined by Mr. Barbero

1           some lead time knowing that a flood is coming, so you'd  
2           have time to remove the filter if that is necessary.

3           MS. VANCE:                    Okay. Thank you very much.  
4           That's the only question I had.

5           THE CHAIR:                    Thank you, Ms. Vance.

6                    Mr. Barbero -- we're jumping a little bit, but  
7           just to accommodate Mr. Osko. Thank you. Mr. Barbero.

8           MR. BARBERO:                    Thank you, Mr. Chair. I'll be  
9           brief.

10          MR. BARBERO CROSS-EXAMINES THE WITNESS:

14:28

11          Q. Sir, you made a number of recommendations and design  
12          operation changes in relation to the issue of weeds in  
13          your report; correct?

14          A. Yes.

15          Q. And, sir, you understand that Alberta Transportation  
16          has filed a reply submission? It's made a number of  
17          commitments in that. Do you understand, sir?

18          A. Yes, yes.

19          Q. Sir, on the issue of the filtration, you understand  
20          there's an undertaking that has been given and will be  
21          responded to from Alberta Transportation?

14:29

22          A. Yes, I heard that yesterday, yes.

23          Q. And, sir, just while I've got you on that topic, do you  
24          have any sense of the minimum size of the mesh that  
25          would be required to allow for effective filtration as

## SCLG PANEL #5 WITNESS

Cross-examined by Mr. Barbero

1           you envision?

2       **A. Yeah, sorry, no, I don't.**

3       **Q. Very good, sir. Sir, I just want to confirm that you**  
4           understand, sir, that Alberta Transportation intends to  
5           address weeds in its sediment management?

6       **A. Yes, I understand that there's an intention to do so,**  
7           **yes.**

8       **Q. And, sir, you also understand that**  
9           **Alberta Transportation intends to involve an**  
10          **experienced ecologist in those plans and exercises?**

11       **A. Yes.**

12       **Q. Very good, sir. And, sir, my last question for you,**  
13          **you have recommended that Alberta Transportation**  
14          **provide a containment system to prevent soil-borne weed**  
15          **seeds from being introduced into the Elbow River. And,**  
16          **sir, I just want to -- I just want to understand that.**  
17          **I think your concern there with soil-borne weeds being**  
18          **introduced into the river during construction? Is that**  
19          **the gist of that?**

20       **A. Yes, that's correct. So based on my understanding of**  
21          **the construction of a floodplain berm, and not having**  
22          **the information that there is a local borough site**  
23          **until yesterday, I made these -- and because AT**  
24          **committed to containing all the construction within the**  
25          **PDA boundary, the only assumption I had left was that**

14:30

14:30

## SCLG PANEL #5 WITNESS

Cross-examined by Mr. Barbero

1 the material was going to be somehow transported  
2 across -- and the river is going to be diverted so that  
3 other construction can be underway.

4 So the only assumption I could reach was that  
5 material from the diversion channel would be hauled  
6 across the river and the floodplain to construct the  
7 floodplain berm. So if that was the case, my concern  
8 was that soil falling off of the truck containing seeds  
9 could end up in the river, and then the seeds would be  
10 washed eventually away downstream.

14:31

11 Q. I think, sir, you now understand that AT has no  
12 intention of hauling soil across the Elbow River?

13 A. Yes, that is my understanding other than across the  
14 bridge on Highway 22.

15 Q. Fair enough, sir, yes.

16 MR. BARBERO: Sir, those are my questions, and I  
17 hope everything is okay with you and your family, sir.

18 A. Thank you, I appreciate that very much.

19 THE CHAIR: Mr. Osko, I've canvassed the  
20 Panel, and I don't think we have any questions.

14:31

21 But, Mr. Kennedy, I did not hear from you. Do you  
22 have any questions.

23 MR. KENNEDY: I do not. Thank you, Mr. Chair.

24 THE CHAIR: Okay. So, Mr. Osko, I think,  
25 after Ms. Vance's question, the Panel is good. And us



## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 too wish you the best and our best regards with  
2 whatever you're dealing with. So take care, and thank  
3 you very much.

4 **A. Excellent. Thank you.**

5 MS. OKOYE: Thank you, Dr. Osko, and take  
6 care.

7 (WITNESS STANDS DOWN)

8 MS. OKOYE: So go to the remainder of our  
9 panel. We have Dr. Brian Zelt and Cliff Wallis and  
10 Dr. Klepacki. Dr. Klepacki had been previously  
11 affirmed, so he will be acknowledging that he is under  
12 affirmation. So probably we'll start off with  
13 Dr. Brian Zelt.

14 I think Dr. Brian Zelt wants to be sworn, if  
15 that's okay.

16

17 **B. ZELT, C. WALLIS, D. KLEPACKI (For SCLG), affirmed,**  
18 **previously affirmed**

19 **MS. OKOYE EXAMINES THE PANEL:**

20 Q. Okay, so, Dr. Zelt --

21 THE CHAIR: Ms. Okoye, sorry to interrupt. We  
22 do have our host -- Zoom host from MNP is having  
23 difficulty. We're all up and running, which is all  
24 good, but I'm not sure if everyone has switched to  
25 gallery view or not, but that is the best view because

14:32

14:34

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 if you've got a speaker view -- let me see. Speaker  
2 view, it looks like it is working again now. Sorry.  
3 So he's back online.

4 So if something happens where you have some people  
5 up in speaker view and going "why or these people  
6 there" or it's just a blank box, it's because it may  
7 happen again. Mr. Wiebe is having some technical  
8 difficulties on his end. So then just switch over to  
9 gallery view, and it's probably the best way to kind of  
10 continue on with the hearing.

14:34

11 Sorry for the interruption. I was on gallery view  
12 myself because of it, but it's been switched over, so  
13 thank you very much and continue. Thank you.

14 MS. OKOYE: Thank you.

15 Q. Okay, Dr. Zelt, I'm referring you to your CV which was  
16 filed as Exhibit 270 and your report filed as  
17 Exhibit 269. And you also have submitted an opening  
18 statement that had been shared to counsel and  
19 everybody. Were these documents prepared by you under  
20 your direction or control?

14:35

21 A. MR. ZELT: Yes, they were.

22 Q. Are there any changes that you would like to make to  
23 the documents?

24 A. MR. ZELT: Not at this time. I'll address  
25 some of the -- what's in the report in my presentation.

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 Q. Are the documents accurate to the best of your  
2 knowledge and belief?

3 A. MR. ZELT: Yes, within what I will discuss in  
4 my presentation.

5 Q. Do you adopt your report as part of your evidence in  
6 this proceeding?

7 A. MR. ZELT: Sorry, say that again?

8 Q. Do you adopt your report as part --

9 A. MR. ZELT: Oh, yes.

10 Q. -- of your evidence in this proceeding?

11 A. MR. ZELT: Yes.

12 Q. And do you acknowledge that you have a duty to provide  
13 opinion evidence to the Panel that is fair, objective,  
14 and non-partisan?

15 A. MR. ZELT: Yes.

16 Q. Please provide a brief summary of your professional  
17 qualifications and experience.

18 A. MR. ZELT: My background is a PhD in  
19 mechanical engineering. Studied at the University of  
20 Alberta. I studied turbulent fluid mechanics and  
21 specifically studying dispersion of -- dispersion and a  
22 boundary layer. My background for the last 30 years  
23 has been in air dispersion modelling, developing  
24 models, reviewing, providing this kind of peer review  
25 and/or expert testimony, and performing health, risk

14:36

14:36

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           and environmental risk assessments. I guess that's a  
2           nutshell.

3       Q.    Okay. Thank you.

4           Document manager, if it's possible, could you pull  
5           up the opening statement or the presentation by Brian  
6           Zelt.

7           Dr. Zelt, could you please proceed.

8       A.   MR. ZELT:           Thank you. So I thought it would  
9           be good just to go through basically the gist of what I  
10          prepared in my report. I was -- so I'm going to try  
11          and stick to my notes, otherwise I'll drift off and  
12          blab away.

14:37

13          So I was engaged by the SCLG to review the air  
14          quality assessment of the proposed diversion project.  
15          My role was to objectively review the assessment to  
16          identify gaps in the air quality assessment or any  
17          unresolved questions related to the terms of reference  
18          or the expected content, and also to review whether the  
19          methodology used in the assessment was up to common  
20          standards and/or reasonable assumptions were made in  
21          the -- in the assessment.

14:38

22          So it's -- you have to be careful when you're  
23          reviewing assessments to review that they're reasonable  
24          assumptions, not necessarily my particular assumptions.  
25          So I tried to keep that in mind more for most of the

## SCLG TOPIC #5 PANEL

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1 things, although I did interject one personal one that  
2 I will get to at the end.

3 Next slide, please.

4 Q. So, Dr. Zelt, can you just call the slide number  
5 please, so people can follow.

6 A. MR. ZELT: I didn't number the slides.

7 Q. Okay, you can just say --

8 THE CHAIR: Or perhaps. Mr. Zelt, on the  
9 screen there you will see "2 out of 14."

10 A. MR. ZELT: Okay. There we go. Yeah, thank  
11 you --

12 THE CHAIR: -- thank you.

13 A. MR. ZELT: Thank you.

14 So on this slide, I'm presenting the 1 in 200-year  
15 flood. This is my re-estimate of what the original  
16 predictions of what the air quality assessment was  
17 presented, and I believe that was in Exhibit 67 of the  
18 original EIA.

19 So on the review of that assessment, I found some  
20 things that I thought weren't correct, but in order to  
21 actually affirm or verify whether those were actually  
22 important, it would be necessary to redo some of the  
23 calculations rather than just discuss it. So in  
24 redoing those calculations, I have to verify that I can  
25 actually reasonably duplicate what they did, and this

14:38

14:39

## SCLG TOPIC #5 PANEL

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1 graph is my graph of the results using more or less  
2 much more simplified methods than what they used, but  
3 basically duplicates what they did in the report.

4 In doing so, verifies that I'm using basically the  
5 same methods to get the same results so that I can  
6 extrapolate from there by changing some of the inputs.

7 One of the concerns about the original report was  
8 that it assumes that all of the controls are effective  
9 all the time and, as we've heard, that they're going to  
10 apply those controls immediately.

14:40

11 However, the tackifiers, as they have been called,  
12 that might be applied to either grow with -- if it's  
13 put on seeds or just to reduce this -- particulate  
14 emissions tend to degrade with time. If you read the  
15 fine print on the tackifiers, which I originally did on  
16 looking up the ones that were introduced or referenced  
17 by AT, and I further contacted a company, and they  
18 basically said independently the same sort of thing.  
19 The tackifiers degrade to about 80 percent after one to  
20 two months, and after three months, they're down to  
21 about 60 percent.

14:41

22 That means in order to maintain the original  
23 controls that are -- would be depicted in the figure  
24 here and in the AT's assessment of air quality, they  
25 would have to start repeating the tackifier and/or

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 controls after a couple of months or a few months at  
2 the expense of 200 to -- depending on the size that  
3 they're doing, \$200,000 to half a million dollars each  
4 time they do that.

5 So the original assumption in the AT's assessment  
6 of 86, or somewhere around there, percent efficiency  
7 degrades actually fairly quickly.

8 I also contacted a company and just enquired how  
9 long does it take to do an area, and they indicated  
10 that it would probably take up to two weeks to -- to  
11 apply tackifier over a large area on the -- such as the  
12 100 or 1 to 200-year flood. So given that -- depending  
13 on when it's recognized that there is an issue, there  
14 would be a time delay between the recognition that  
15 there's an issue and when the tackifier would be  
16 applied to actually start those controls. Even if it  
17 was seeding, it takes time for some germination.

18 Next slide, please. That would be 3 out of 14.

19 So my primary concerns when I looked at the  
20 assessment, there are essentially five -- four concerns  
21 that I have here. The first four bullets. The fifth  
22 one is essentially a -- would be my preference when I  
23 would do that. I noted an errata that I noticed when I  
24 was looking at the results, that they used a PM 2.5  
25 over TSP ratio. And in their final assessment of their

14:42

14:43

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1 emissions, it was half of that value. AT has  
2 subsequently either found it on their own or  
3 acknowledged that error and has reassessed the air  
4 quality with the proper value, so the original  
5 assessment was at least half too low for the PM 2.5  
6 assessment.

7 My review here that I'm presenting is basically  
8 based on the original assessment, and most of the  
9 things that I noted in the first assessment were not  
10 changed in the second assessment, so there's still the  
11 same objection, so I didn't bother updating my  
12 assessment to reflect some of the changes, although I  
13 recognize that they did expand their assessment from  
14 the original one.

14:44

15 So my concerns, when I reviewed it, was the  
16 selection of the surface roughness that they used.  
17 Surface roughness is an air dispersion modelling  
18 parameter that reflects the turbulence intensity near  
19 the ground due to the wind blowing past it, and they  
20 used a value of .005, and I'll discuss that in a  
21 minute.

14:45

22 They also used a meteorological dataset. In the  
23 "biz" you would say it's the MM5 model, a  
24 meteorological model dataset, which is a required model  
25 dataset or recommended according to the air quality



## SCLG TOPIC #5 PANEL

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1 model guideline, and I'll discuss that, you know,  
2 further.

3 The area of emissions, they assumed that the area  
4 where there would be emissions was only the area where  
5 it is greater than 10 percent -- or 10 centimetres'  
6 thickness. There's been some discussion about that,  
7 and we'll discuss that again more in the following  
8 slides.

9 They used a particulate size distribution based on  
10 the alluvial particles gathered from the side of the  
11 Elbow River, and then they subsequently ignored part of  
12 that and used a generic value, and we'll discuss more  
13 of that in a minute; and then the friction velocity at  
14 the end.

14:45

15 Next slide, please. That would be Number 4.

16 So one of the important aspects of fugitive  
17 emissions is how are the ability of the wind to kick up  
18 particles near the ground. The wind profile and as it  
19 approaches the ground is impacted by the roughness of  
20 the ground and the turbulence intensity, or how much  
21 turbulence there is in the air increases as you get  
22 closer to the ground.

14:46

23 So as the size of the roughness increases, such as  
24 if there are buildings or trees or grass or bushes or  
25 whether it's perfectly smooth, affects how turbulent

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           it's going to be near the ground. So the greater the  
2           size of the obstacles near the -- or the roughness near  
3           the ground the more turbulence there is. The  
4           characterization used by AT's assessment is not  
5           appropriate. It wasn't selected appropriately given  
6           the circumstances.

7           So if you're following a very simplistic approach  
8           for a fugitive dust analysis, you would look at the  
9           size of the particles and only look at the small plot  
10          of land where you're looking at and characterize the  
11          surface with that roughness. So, for instance, this  
12          .005 metres.

14:47

13          However, the wind profile doesn't actually behave  
14          that way. It looks at the wind up -- wind of that, and  
15          you need to look at a little bit of a broader and more  
16          objective point of view and look at, say, the  
17          surrounding 3 kilometres around the facility and look  
18          at what the roughness is and characterize that.

19          So, for instance, in the winter when things are  
20          snow covered, you get a very low -- because it's fairly  
21          smooth when things get covered in snow, and you get a  
22          roughness -- typically around 001 is what is often  
23          used. And in the summer when everything is in green  
24          leaves and trees and the grass is tall, you get a much  
25          larger surface roughness.

14:48

## SCLG TOPIC #5 PANEL

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1           So this graph here is depicting "U\*" which is an  
2           indication of roughness. And on the bottom is wind  
3           speed. And essentially shows that in a typical year,  
4           you would get all those blue dots. And the line slope  
5           is an indication of what the surface roughness is in  
6           terms of the line. So it gets complicated, but if you  
7           look at the red line versus the dotted line, the dotted  
8           line is the line that they are suggesting as the  
9           "Z nought." That characterizes the turbulence  
10          intensity, which ends up being even more smoother than  
11          what you would find in winter.

14:49

12           I'm arguing, and based on my 30 years of  
13          modelling, that the turbulence that you're actually  
14          seeing is going to be reflective of a bit more of a  
15          broader aspect and not the simplistic picture that  
16          they've presented here.

17           So that means that the turbulence that impacts the  
18          ground is going to kick up more dust than what has been  
19          predicted in the AT's assessment.

20           So it becomes key on the inputs and is one of  
21          the -- a principal factor and biasing the predictions  
22          lower than what they -- what they should have.

14:50

23           Next slide, please, 5 out of 14. So one of the  
24          things I note in my assessment and I think there has  
25          been some discussion back and forth is that they have

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 claimed that they used the MM5 as required by the  
2 Alberta ambient air -- Alberta air quality modelling  
3 guidelines, which is true.

4 The MM5 has been selected as the regulatory data  
5 to be used. It provides consistency for the regulators  
6 and reviewers alike to use the same dataset when you're  
7 reviewing air quality impact assessments.

8 It also removes some of the toggles and switches  
9 that some consultants try to use to try and get the  
10 results for their clients as low as possible by  
11 selecting the air quality model or meteorological  
12 model, such as using the WRF, which may arguably be  
13 more accurate but isn't consistent with what everybody  
14 else is doing.

15 So WARF -- WRF, sorry, WRF, is another version and  
16 will probably be the new standard in the next round of  
17 things, but the Alberta Government has adopted to use  
18 the MM5 model.

19 So when you're looking at the meteorology from the  
20 MM5 model, you get a graph that looks like this  
21 complicated graph here. So the green boxes is called a  
22 "box and whisker graph," and this is showing the months  
23 of -- for the five years of data. And for each of the  
24 months, it shows a box that shows the 25 percent; the  
25 median, 50 percent; and 75 percent. Then it shows the

14:51

14:51

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           1 percent and 99 percent, which is that long whisker.  
2           And then the dot, dot, dots are the outliers, which are  
3           the wind speeds that are exceeding the 99.9th.

4           So the big thing to see here is relatively that  
5           the MM5 data is quite low. So one of the crucial  
6           part -- points that is often missed in air quality  
7           dispersion models is verification and validation. And  
8           in this case, validation or verification --  
9           verification is looking at did they use the right  
10          equations. Validation is essentially looking at the  
11          physics and did they use the right data and did they  
12          compare those predictions to actual data.

14:53

13          So what I present in my report is that they used  
14          the MM5 data, as they should have, but they did not  
15          compare and determine whether there are consequences to  
16          using that data by actually looking out the window to  
17          see whether it was raining, as -- to use a rule of  
18          thumb for meteorologists. So it's helpful just to  
19          model it, but occasionally you have to actually go out  
20          and look and see and measure and use the data.

14:53

21          So in this case, within less than 5 kilometres  
22          away, I believe, is the Springbank airport. So  
23          according to the air quality modelling guidelines, it's  
24          not within the fenceline of the project, so it  
25          shouldn't be used for the modelling. However, it

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 provides a great reference for whether the MM5 data is  
2 representative of the actual site.

3 So the red boxes are the winds from the Springbank  
4 airport summarized in the same sort of way, and the  
5 thing to note here is that the red boxes are all  
6 substantially higher, taller, longer than the green  
7 boxes, which means that the wind speeds are higher,  
8 substantially higher, so you see the peak. All the  
9 peaks of the green are -- the 99th percentiles only  
10 going up to less than 10 metres per second, whereas the 14:54  
11 99th percentiles of the reds exceed 12 to 13, and the  
12 peaks go well above that into 20 metres per second.

13 That corresponds to the wind profiles and to how  
14 much turbulence is generated near the ground level.

15 So if the turbulence near the ground level is not  
16 represented accurately with the meteorology, then the  
17 emissions aren't going to be there.

18 So in the case so far that we've looked at, in the  
19 previous slide, the Z naught, the characterization of  
20 how much turbulence in a wind profile wasn't done 14:55  
21 correctly in my mind, our opinion, and here the wind  
22 speeds are not done -- selection.

23 So although they presented the air quality -- did  
24 the -- according to the air quality guideline, they  
25 didn't take the extra step to validate it to find out

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           whether it was important or valid, and they could have  
2           submitted a revised emissions profile that took this  
3           into account while still using the green wind speeds.  
4           They could have adjusted the data, or they could have  
5           characterized their data saying that "we're low by  
6           X amount or 50 percent" or changed it; however, they  
7           have not done that to date.

8           One of the consequences of using that green line  
9           also is that there are very few high wind speeds less  
10          than -- or 3 percent greater than 7 metres per second,  
11          so when they're using their wind adjusted emissions  
12          profile, it ends up -- and then using the -- say the  
13          99th percentile of the results or the 98th percentile  
14          of the results for PM 2.5, it's essentially removing  
15          the top two -- top 1, 2, and sometimes the top 3 of  
16          their emissions profile so they're only using the very  
17          bottom part of the emissions and basically skipping out  
18          most of the emissions.

19          Excuse me. I'm sorry, I should be sticking to my  
20          notes so I'm quicker.

21          So, in short, I guess the higher wind speeds are  
22          both more realistic, and the emissions are -- ends up  
23          being quite a bit higher than they have done.

24          Next slide, please. So this is Slide Number 6.

25          So in this graph, what I looked at was that -- or

14:56

14:56

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 I'm showing here is the black line is the project area.  
2 The brown blob in the middle is the area from the  
3 original assessment. That was greater than  
4 10 centimetres, which they are claiming -- or AT's  
5 assessment has claimed has the area only of which where  
6 they get to the particulate emissions from.

7 However, we know from, for instance, the 2013  
8 flood that the broader area is going to be covered with  
9 some kind of a sediment. And as we've heard, the  
10 larger particles are the ones that settle out first,  
11 and the finer particles, the silts and potentially  
12 clays, are going to be settling out on top of that.

13 So whether you're in the heavy sediment area or  
14 the other area, the entire area is going to be covered  
15 in a layer of fines.

16 In the heavier sediment area, depending on where  
17 the water is flowing from, some of that may be swept  
18 off as it's draining. So likely, in all reality, the  
19 entire area will be a mix of areas that are probably  
20 likely all fines, either clays and/or very fine  
21 sediments, silts, and there -- it could be some areas  
22 that are more sandy and larger particles.

23 The difference between the two is that the winds  
24 and turbulence near the ground tends to kick up small  
25 particles, and they bounce across the ground, and as

14:58

14:58



## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           they bounce, they stir up the other particles and  
2           introduce more dust into the wind, which then gets  
3           carried away.

4           Some soils tend to compact and coagulate, such as  
5           those soils with a very high clay content, but  
6           also -- so that impedes the ability for lower winds to  
7           create emissions into the air. But for strong winds,  
8           the winds can break that up and bounce those larger  
9           particles around, so you -- it's a bit of give and  
10          take. So unfortunately there's a bit of -- a large  
11          amount of uncertainty in the total amount of particles  
12          that could actually occur.

13          So when I was looking at the assessment, in my  
14          view, I thought the 10 centimetres was a bit arbitrary,  
15          especially after reading the soils report where they  
16          looked at 3 centimetres; and their soil expert and  
17          understanding of erosion, whether he's an air quality  
18          expert or not, their expert in soils was looking at --  
19          they consider 3 centimetres -- there will be particles  
20          on -- throughout that entire area, much larger than  
21          what -- than what was originally assessed, is part of  
22          the -- part of the issue, and I'll discuss that a  
23          little bit more. But there will be patches, either  
24          higher or lower. There will be some areas grasses  
25          covered. There may be some areas where they're poking

14:59

15:00

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 through.

2 Next slide, please.

3 When I read the assessment, the original  
4 assessment by AT, they used a general characterization  
5 of the particles that was based on the Elbow River or a  
6 side of the Elbow River which is -- essentially it  
7 would be alluvial in characterization and, in my mind,  
8 not characteristic of the sediments that would be  
9 settled in a reservoir drawdown after it's been  
10 sitting, either short or especially long. They'll both  
11 end up with the very fines set on top, such as -- just  
12 as an example off the internet of the 2013 here where  
13 it was just flooded and drained right away. So you end  
14 up with that sort of very fine layer, and you can see  
15 some caking going on, so there would be some clays  
16 involved here.

15:01

17 So I couldn't find a good sample at first, and  
18 then I found a study that looked at actually the Elbow  
19 down the Elbow River corridor and was focusing on the  
20 Glenmore Reservoir.

15:02

21 So the Glenmore Reservoir actually ends up being a  
22 fairly good surrogate for particulates, sediments that  
23 are settling out of the fines, because it's essentially  
24 the same thing, although it does sit longer; however,  
25 they -- so this reference characterized the particles

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 along the Elbow River at different locations upstream  
2 and downstream of Glenmore and also in the Glenmore,  
3 and it was a study of the sediments in the  
4 Glenmore Reservoir.

5 This particular graph is an extraction from  
6 that -- that reference. I did not exhaustively go  
7 through them all. They're all very similar for the  
8 particles on the bottom of the Glenmore Reservoir. And  
9 they did make specific note that the Elbow River  
10 upstream characterization, such as almost the same as 15:03  
11 what they used in AT's assessment, is not  
12 representative of a quiescent reservoir and drawdown  
13 because it's the alluvial in nature. The wind -- the  
14 flowing water removes all those sediments, and it's not  
15 until you get a quiet reservoir where you get to the  
16 settling out of these high fines.

17 So the difference is, is in the peak of that blue  
18 line that I've shown here on this graph, which shows  
19 that the particle sediment size is actually quite  
20 small. Most of it is less than PM 10 for these fines. 15:04  
21 So in this particular case, you're getting about  
22 78 percent of PM 10 out of the total particulates, and  
23 the -- in particular, the PM 2.5 is about 23 percent.

24 AT's assessment just characterized the sediments  
25 as basically sandy loam and then did not do a sieve

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 analysis. A sieve meaning -- S-I-E-V-E -- meaning  
2 particle size -- actual particle sizes as shown in  
3 this -- that blue line. They just characterized it as  
4 MS or medium sandy loam, whereas this graph shows that  
5 clearly these fines would be characterized as FS, where  
6 meaning fines or very fine.

7 The AT assessment further went on in their  
8 assessment and then used generic PM 2.5 profiling,  
9 which used a PM 2.5 value of ratio from the TSP of  
10 being 7.5, which they have defended as being an  
11 appropriate choice based on AP-42. The AP-42 is a US  
12 EPA document for emission factors, which is a method  
13 for creating emissions when you basically don't have  
14 any other data to validate your -- your choices.

15:05

15 However, in this case, especially -- and maybe AT  
16 didn't originally didn't know about this study.  
17 However, the -- in this case, we can clearly see that  
18 any characterization of the fines shows that it has a  
19 very high PM 2.5 content. So, again, an emissions of  
20 PM 2.5 substantially higher than what was characterized  
21 in the AT.

15:06

22 So both the PM 2.5 fraction plus the difference  
23 between FS and MS results in much higher emission  
24 rates.

25 THE CHAIR:

Excuse me. Sorry to interrupt.

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 Ms. Okoye, just sort of as a reminder, you -- SCLG had  
2 requested an hour for direct. Just sort of -- just  
3 maybe a bit of a heads up. We're approaching one hour,  
4 and, you know, I've accounted for some time for the  
5 cross on Mr. Osko. We're -- it appears to be on slide  
6 of 7 of 14, and we have Mr. Wallis and Klepacki yet,  
7 and we're five minutes away from your allotted time.

8 So I'm just wondering. I guess, you know, we --  
9 for sure it's important and we want you to be heard,  
10 but it seems like quite a miscalculation in terms of  
11 what you have asked for time and been approved for time  
12 versus what it appears that you might need. And I know  
13 your friend Mr. Secord doesn't like to sit long or past  
14 5, but we're going to be potentially sitting well past  
15 5. So just a heads up. Thanks.

15:06

16 Q. MS. OKOYE: Okay. Dr. Brian, if we can speed  
17 up a little bit.

18 A. MR. ZELT: I'll talk faster.

19 Q. No, not talk faster because that's not good for the  
20 court reporter.

15:07

21 A. MR. ZELT: No, I'm -- correct.

22 So the -- it was important to go through these  
23 first ones a little bit slower, and the remaining ones  
24 are -- we can go a little bit faster. So I just wanted  
25 to check my -- no, so we can jump to the next slide,

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 please.

2 So one of the missing slides, this is Slide 8 of  
3 14. One of the missing slides and one of the important  
4 assessments to be done in an air quality assessment  
5 that is called for in air quality modelling guidelines,  
6 either 2013 or 2020 draft, is to look at the maximum  
7 release case. Whether you're -- especially in this  
8 kind of a situation where you're applying controls that  
9 are not arbitrary but are somewhat subjective in  
10 nature, how bad could things be. So this looks at the  
11 AT's assessment without controls.

15:08

12 (UNRELATED INTERRUPTION)

13 A. MR. ZELT: I'm not sure where that came from.

14 So this was -- would have been AT's original  
15 assessment without controls for PM 2.5 indicating that  
16 there is a substantial area that approaches into the  
17 First Nations lands, and the blue line, cyan line,  
18 which goes into Calgary well above the PM 2.5  
19 objectives for, in this case, 99th percentile PM 2.5  
20 for the 200.

15:09

21 Near the site the concentrations are substantially  
22 higher. This draws the importance of having to put  
23 controls in place for any fugitive dust emissions but  
24 in particular, this case, because it's such a large  
25 area, that the controls would have to be managed very

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 carefully and diligently and continuously after the  
2 initial application to make sure that things aren't  
3 there. However, they didn't in my mind, do the proper  
4 calculation of the emissions, so the actual rates are  
5 somewhat higher than that.

6 So next slide, please.

7 And I will just summarize my slides, I guess, just  
8 in an effort of time; you can jump to the next slide  
9 again.

10 This is slide 10 of 14. This is showing TSP. And  
11 in my reassessment, I used the broader area, in this  
12 case, the entire blue dotted area, indicating beyond  
13 the 3-centimetre area, thickness of where the sediments  
14 would be, which may be indicative of some level of  
15 contamination and/or dust blowing off the wind, so, I  
16 mean, it can be argued whether what size is actually  
17 used.

18 However -- sorry. And also plus the area larger  
19 than 10 centimetres just to follow the -- what AT's  
20 assessment did. I assumed an extremely generous -- a  
21 98th percentile reduction, even though it's going to be  
22 way less than that. So if fines are actually the top  
23 deposited layer, as indicated by the  
24 Glenmore Reservoir, we're going to end up with much  
25 more -- higher -- much higher particulate emissions.

15:09

15:10

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           If the 3-centimetre larger zone is included, even  
2           though some of it may be sparsely vegetated, likely it  
3           will be much less than 98 percent controls, so the  
4           concentrations would actually be higher than this.

5           So the potential here, and this graph is showing  
6           with controls, the TSP under dry conditions producing a  
7           very large dust storms given the right conditions.

8           Next slide, please.

9           If you look at the 1-in-10-year event, they're  
10          much smaller, but again showing the same sorts of  
11          things. The impacts are a lot larger than what were  
12          presented in the original ATs and even in the revised  
13          assessment.

15:11

14          Next slide, please. Slide 2 of 14. If you look  
15          at natural mitigation measures or natural dry areas, so  
16          the reverse of that, this looks at the number of --  
17          using Canadian -- Environment Canada's meteorology for  
18          the months that we're primarily concerned with, June,  
19          July, August, and October, how many days of -- since  
20          the last rain. So we've got many days that can be very  
21          dry and over extended periods, so the potential for  
22          getting very dry. And we know from the wind  
23          meteorology we looked at before we have those high  
24          winds.

15:12

25          So, again, the -- diligence in being able to



## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 maintain controls. But even with the controls, as is  
2 shown in the preliminary modelling presented here,  
3 which is obviously not exhaustive because I wasn't  
4 contracted to do the quality assessment, is --  
5 demonstrates that there is potential even with controls  
6 for emissions.

7 Last slide, please.

8 So just to quickly summarize. My concerns were  
9 raised with the roughness, the MM5 -- sorry -- the  
10 area, generic versus likely, particulates, and I won't  
11 get into the threshold velocities. And basically the  
12 impacts extend well beyond the project area, even with  
13 their controls, and a very conservative estimate of  
14 controls, which could be a lot worse than what  
15 they're -- what they're looking at.

15:13

16 I guess in conclusion, there are many  
17 uncertainties involved in fugitive dust modelling.  
18 I've been doing this for fugitive dust, as well as  
19 other modelling, for many different sites, small --  
20 excuse me -- and large. This large area source is  
21 particularly challenging because of the ability to try  
22 and control it versus something like a construction or  
23 a gravel pit, where it's much easier to apply controls  
24 and apply them regularly and quickly.

15:14

25 And it's really important to understand fully on

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 AT's understanding that -- of the potential for air  
2 quality consequences, and that there should be  
3 controls -- there should be controls -- well,  
4 sorry -- there are high consequences with zero  
5 controls, sorry, and there are also consequences even  
6 with effective controls. But with the effective  
7 controls, they do degrade with time and/or they take  
8 time to implement.

9 The actual validity of the modelling validating it  
10 with meteorology and characterizing the emissions  
11 wasn't performed, in my opinion, which we can see from  
12 the meteorology from the site. Actual meteorology is  
13 much different, so the emissions are much higher than  
14 what was presented. So best estimates of particle size  
15 and distributions which could vary across the site and  
16 none of that was considered or included in the  
17 modelling.

15:15

18 I think that summarizes my findings and review of  
19 the report.

20 Thank you very much, Panel, and Chairman.

15:16

21 Q. Thank you, Dr. Zelt.

22 MS. OKOYE: And, Mr. Chair, thank you for the  
23 extra time. Probably we will need some extra time. I  
24 think the initial estimate that we had made, we had  
25 made estimates based on just our experts giving an

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 overview of their reports, but we didn't contemplate  
2 the additional time that they will require to respond  
3 to matters arising from cross.

4 So, so far what we have, we just have  
5 Cliff Wallis, and I understand that he will take about  
6 20 minutes, and Dr. Klepacki will take just about two  
7 and a half minutes, if that's okay with you. If you  
8 can just give us those extra time.

9 THE CHAIR: Yes, and the PowerPoint from  
10 Mr. Zelt, I think, needs to be entered as an exhibit;  
11 is that correct? 15:16

12 MS. OKOYE: Yes, that's correct.

13 THE CHAIR: That will be number 401,  
14 Ms. Friend; is that right?

15 MS. FRIEND: Yes, that's correct.

16 THE CHAIR: It's the only one I remember  
17 because we just had the big number 400.

18 **EXHIBIT 401 - SCLG BRIAN ZELT**

19 **POWERPOINT**

20 THE CHAIR: Let's break until 3:30, and then  
21 continue with Mr. Wallis, please. Thank you. 15:17

22 MS. OKOYE: All right. Thank you.

23 MS. LOUDEN: Mr. Chairman --

24 THE CHAIR: Yes.

25 MS. LOUDEN: Sorry, this is Sara Louden. I do

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           have a brief matter I'm hoping to speak to. I can do  
2           that after the break if that's preferable to you.

3       THE CHAIR:                    Yes, let's do that right after the  
4           break, sure.

5       MS. LOUDEN:                  Thank you very much, sir.

6       (ADJOURNMENT)

7       THE CHAIR:                    Okay, before we just get started,  
8           we have two things. I'd like to just chat quickly  
9           about final argument, and Ms. Louden had an issue to  
10          raise.

15:29

11                So Ms. Louden, do you want to go ahead? You had  
12                something to raise?

13       MS. LOUDEN:                  Sure. Thank you, Mr. Chairman.  
14           I'm still getting the -- there we go. Sorry. Video  
15           issues.

16                Thank you, Mr. Chairman. Yes, I'll be brief. I  
17                apologize for interrupting. I just thought it probably  
18                best to raise this sooner.

19                We have received the undertaking from Alberta  
20                Transportation and we have a few follow-up questions we  
21                are hoping to ask. I certainly don't intend to add to  
22                what might already be a long day, and it is only a few  
23                questions, Mr. Chairman, but I'm wondering if this  
24                might be able to be accommodated at some point.

15:29

25       THE CHAIR:                    Yes. Now, I guess if you're

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 hoping to have those by -- you know, those questions  
2 answered before finals on what we hope to be on  
3 Tuesday, perhaps you can put those questions now.

4 Ms. Okoye, if you don't mind, we'll just have a  
5 quick interruption here, get those questions on the  
6 record for -- and I assume they're for Alberta  
7 Transportation; is that right?

8 MS. LOUDEN: They are, yes, sir.

9 THE CHAIR: Please get those on record and  
10 then we can move on. Thanks.

15:30

11 MS. LOUDEN: First, I'm not sure, Mr. Chairman,  
12 if we can ask these directly to the Alberta  
13 Transportation panel or if they will just be, I guess  
14 additional undertakings; is that --

15 THE CHAIR: Well, no, I think at this point it  
16 would be undertakings. So just put them to Alberta  
17 Transportation so they can respond to them, but I don't  
18 think we can get the panel up at this point.

19 MS. LOUDEN: Sure. So in Alberta  
20 Transportation's opening statement on Topic 5 and then,  
21 again, in their response to one of my questions  
22 yesterday, they represented to the Board the entire  
23 Highway 22 is currently designated as a high load  
24 corridor.

15:31

25 So given the answer to the undertaking that we

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 have received this afternoon, would Alberta  
2 Transportation like to correct their evidence in that  
3 regard? If no, we would request that they reconcile  
4 their responses of yesterday and their statement in the  
5 opening statement with the undertaking that has been  
6 provided.

7 **UNDERTAKING - REFERRING TO THE SNN**  
8 **UNDERTAKING PROVIDED TO ADVISE WHETHER**  
9 **AT WOULD LIKE TO CORRECT THEIR EVIDENCE**  
10 **WITH RESPECT TO THE HIGH LOAD CORRIDOR**  
11 **AND/OR TO RECONCILE THEIR RESPONSES OF**  
12 **YESTERDAY AND THEIR STATEMENT IN THE**  
13 **OPENING STATEMENT WITH THE UNDERTAKING**  
14 **THAT HAS BEEN PROVIDED**

15 MS. LOUDEN: The second question, on what basis  
16 was the portion of Highway 22 between Highway 1 and  
17 Highway 8 proposed to become a high load corridor?

18 **UNDERTAKING - TO ADVISE SNN ON WHAT**  
19 **BASIS WAS THE PORTION OF HIGHWAY 22**  
20 **BETWEEN HIGHWAY 1 AND HIGHWAY 8**  
21 **PROPOSED TO BECOME A HIGH LOAD CORRIDOR**

22 MS. LOUDEN: Third, the undertaking response  
23 that we received states that that segment of Highway 22  
24 was proposed as a future high load corridor in 2017 or  
25 2018.

15:31

15:32

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           We are requesting a response as to why it has  
2           remained as simply a "proposed"; in other words, why  
3           this segment has not yet been designated.

4           **UNDERTAKING - REFERRING TO THE**  
5           **UNDERTAKING RESPONSE PROVIDED WITH**  
6           **RESPECT TO THE HIGH LOAD CORRIDOR, TO**  
7           **ADVISE WHY THE SEGMENT OF HIGHWAY 22**  
8           **HAS NOT BEEN DESIGNATED THE SAME**

9           MS. LOUDEN:                   And, further, to that, what will  
10           trigger that portion of Highway 22 becoming designated  
11           or in service as a high load corridor?

15:32

12           **UNDERTAKING - TO ADVISE WHAT WILL**  
13           **TRIGGER THE SUBJECT PORTION OF HIGHWAY**  
14           **22 BECOMING DESIGNATED OR IN SERVICE AS**  
15           **A HIGH LOAD CORRIDOR**

16           MS. LOUDEN:                   And I believe, Mr. Chairman, that  
17           that should conclude our questions on that.

18           THE CHAIR:                   Thank you. And if you have not  
19           forwarded those already, yes they'll be in the  
20           transcripts but they won't have those till later, if  
21           you could forward those to legal counsels, that would  
22           be appreciated.

15:32

23           MS. LOUDEN:                   We will do that right now.

24                   Thank you very much, sir, for accommodating us.

25           THE CHAIR:                   Thank you, Ms. Louden.

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           The Panel has decided on final argument, and  
2           that's assuming we get through today and all of the  
3           evidentiary portion. We have allocated Tuesday for  
4           final argument and Wednesday morning for Alberta  
5           Transportation reply. That reply would be 90 minutes.

6           But first for the final arguments, Alberta  
7           Transportation, we've -- somewhat of a compromise I  
8           think, for Transportation and SCLG requests. So 150  
9           minutes for Alberta Transportation; 150 minutes for  
10          SCLG; Calalta, 30 minutes; Stoney Nakoda, 30 minutes;  
11          Calgary, 40 minutes -- City of Calgary, 40 minutes;  
12          Calgary River Communities Action Group, 40 minutes;  
13          Mr. Wagner, 30 minutes. That totals 470 minutes. Our  
14          days are approximately 410 minutes with an hour lunch,  
15          starting 8:30 to 5.

16          So, of course, that doesn't quite work, so we  
17          would like to start on Tuesday, April 6th at 8 a.m., so  
18          sign-in 7:30, start time 8 a.m., and that would take us  
19          to a 5:30 close. If some are a bit quicker, obviously  
20          we'll close a bit quicker, but that would be 8:00 to  
21          5:30 on Tuesday for final argument, based on those time  
22          allotments, and then Alberta Transportation reply on  
23          Wednesday, April 7th at 9:00 a.m. to 10:30.

24          So 90 minutes on the Wednesday, and that would be  
25          a little bit of a later start, so sign-in at 8:30 for a

15:33

15:34



## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 9:00 start Wednesday, April 7th for Alberta

2 Transportation reply.

3 MR. SECORD: Thank you, sir. Appreciated.

4 THE CHAIR: Okay. Thank you, everyone.

5 Ms. Okoye, please proceed. And with -- let's keep  
6 the times that we've just spoken to, because that is  
7 over, as we spoke about, but let's see if we can get  
8 the evidentiary portion wrapped up today. So please  
9 proceed.

10 MS. OKOYE: Thank you, Mr. Chair, for that  
11 accommodation.

12 Q. Mr. Wallis, I'm referring you to your CV Exhibit 272,  
13 your report, Exhibit 271, and your opening statement  
14 which has been shared.

15 Were the documents prepared by you or under your  
16 direction and control.

17 A. MR. WALLIS: Yes, they were.

18 Q. I understand that you have some changes to make to your  
19 report?

20 A. MR. WALLIS: Just one minor. In my report at  
21 Exhibit 271, PDF page 62, Stantec 2018 C, there's an  
22 Exhibit Number 48 there which should be numbered as  
23 Exhibit 35.

24 Q. With those changes, are the documents accurate to the  
25 best of your knowledge and belief?

15:35

15:35

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1       **A. MR. WALLIS:**                   **Yes, they are.**

2       **Q.** Do you adopt them as part of your evidence in this  
3       proceeding?

4       **A. MR. WALLIS:**                   **I do.**

5       **Q.** Do you acknowledge that you have a duty to provide  
6       opinion evidence to the Panel that is fair, objective  
7       and non-partisan?

8       **A. MR. WALLIS:**                   **I do.**

9       **Q.** Can you please provide the Board with a summary of your  
10      professional qualifications and experience?

15:36

11      **A. MR. WALLIS:**                   **Sure. Good afternoon, Mr. Chair,**  
12      **Panel members and other participants.**

13                You have my CV, so I'll give just a brief  
14      overview.

15                I am a professional biologist registered in  
16      Alberta with over 50 years of experience. I also hold  
17      an authenticating wetland professional designation and  
18      I have appeared before federal, provincial, and  
19      municipal regulatory bodies on highway construction,  
20      coal mines, recreation developments, waste disposal,  
21      and dams.

15:37

22                I chaired expert panels for hearings on the Oldman  
23      and Pine Coulee dam projects, and was a member of the  
24      Oldman River Dam Environmental Advisory Committee.

25                I was also the environmental sector rep on the

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 Minister of Alberta Environmental Protection's Advisory  
2 Committee on revisions to the *Water Act* in the  
3 mid-1990s.

4 I've personally conducted biodiversity research in  
5 the project region since the 1970s, including the  
6 original environmental significant area study done in  
7 the Calgary region, and also through various studies in  
8 the Foothills Parkland.

9 I also provided input to studies on riparian  
10 poplars of southern Alberta rivers, including the  
11 biology and status of riparian poplars in southern  
12 Alberta and, most recently, visited the project site in  
13 November.

14 Q. Thank you, Mr. Wallis.

15 Document manager, can you please pull up  
16 Mr. Wallis's presentation.

17 Mr. Wallis, you can proceed.

18 A. MR. WALLIS: Great. I'll first briefly go  
19 through a few of the materials from my report and try  
20 and be brief and interject that with a couple of  
21 responses to reply -- I mean to cross -- and most of my  
22 responses to cross will be at the end of going over my  
23 report materials.

24 So if we could have Slide Number 2, please. So  
25 much of the Springbank SR1 project boundary is located

15:37

15:38

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 in one or more landscapes of conservation significance.

2 Next slide, please.

3 In the Prairie Conservation Action Plans, the  
4 Prairie Conservation Forum identified the area as a  
5 high-valued landscape.

6 Next slide, please.

7 The Calgary Regional Planning Commission and  
8 Alberta government identified the Elbow River valley as  
9 an ESA, or environmentally significant area, and key  
10 wildlife and biodiversity area. In addition, some of  
11 the quarter sections in the footprint were also mapped  
12 for the Alberta government as aquatic environmentally  
13 significant areas. And this was before 2014.

15:39

14 Next slide, please.

15 This shows the environmentally significant areas  
16 identified in 2014 by the Alberta government, which is  
17 the darkest brown colour, and the next lower category I  
18 consider to be of regional environmental significance.

19 Next slide.

20 Much of the project area has also been identified  
21 as an area of high risk or sensitivity for wildlife.  
22 39 of the 46 quarter sections occurring in the project  
23 area are mapped as high sensitivity. While directed to  
24 renewable energy projects, this mapping highlights the  
25 importance of the areas for wildlife and notes

15:39

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 high-risk areas to be avoid by renewable developments.

2 Next slide, please.

3 The Bow River Basin Council map, the Elbow River,  
4 has a high sensitivity watershed. Note also, the  
5 downstream areas on the Bow are similarly classified.

6 Next slide please.

7 South Saskatchewan Regional Plan mapped some of  
8 the project area as intact native grasslands.

9 Next slide, please.

10 And in that plan, there was guidance to implement  
11 guidelines to avoid conversion and maintain intact  
12 native grasslands on public land.

13 Alberta Transportation, in Exhibit 219, PDF  
14 page 12, notes that native vegetation cannot be left  
15 undisturbed in all cases. So I feel that this is in  
16 contravention of the SSRP guidance to maintain intact  
17 native grasslands.

18 Next slide, please.

19 In their 2016 overview of reclamation success, in  
20 the surrounding region of Foothills fescue, Foothills  
21 Parkland, and Montane Natural Subregions, Lancaster,  
22 et al. note the challenges.

23 Bradley and Neville also note that: (as read)

24 "Natural recovery has failed to restore  
25 foothills fescue plant communities as

15:40

15:41

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           the native plants simply cannot compete  
2           with invasive non-native species.  
3           Disturbed sites seeded with native plant  
4           cultivars have resulted in limited  
5           success in reducing non-native species  
6           invasion."

7           So, in my professional opinion, based on the  
8           overwhelming evidence to date, there's a high likelihood  
9           that reclamation for these foothills grassland habitats  
10          will be unsuccessful in the project area. More than  
11          likely, non-native species will dominate for quite some  
12          time given their large presence in the surrounding  
13          environment.

15:42

14           Next slide, please.

15           Stantec acknowledges the importance of native  
16          fescue grassland and the potential of the project to  
17          remove native prairie including native fescue grassland.

18           In reply at Exhibit 325, PDF page 52, point 183,  
19          they state: (as read)

20           "Reclaimed native grassland areas will  
21          likely have reduced function and  
22          diversity compared to existing areas,  
23          but will remain dominated by native  
24          plants and provide wildlife habitat."

15:42

25          I have considerable difficulty with that

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1            characterization and Stantec's in Exhibit 94, PDF  
2            page 150, of the project area being native grassland  
3            following revegetation.

4                       In the unlikely event that reclamation is  
5            successful, those grasslands will not have the full  
6            functionality and productivity for native plants and  
7            wildlife, including invertebrate populations.

8                       Next slide, please.

9                       Over five kilometres of productive stream courses  
10           and numerous productive wetlands will be directly  
11           impacted and lost to constructed elements of the  
12           project.

15:43

13                      You can see the darker meandering line of the  
14           Unnamed Creek starting at the Elbow River extending  
15           north and west through the dam in purple where it  
16           bifurcates and continues mostly inside the orange  
17           crosshatched SR1 construction area and erosion  
18           protection almost to the Springbank Road. This is not  
19           insignificant.

20                      Stantec, in Exhibit 94, PDF page 114, also notes  
21           that there will be permanent diversion of five small  
22           tributary streams intersected by the diversion channel.

15:44

23                      Next slide, please.

24                      Stantec notes in Exhibit 217, PDF page 24 that:  
25           (as read)

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 "Dry operations would result in the loss  
2 of over 52 percent of wetlands classed  
3 as either moderate or high value."

4 Despite proposed mitigation, there will be residual  
5 negative impacts of the project on valuable wetlands and  
6 streams through both sediment deposition during flood  
7 events and modification of stream flow or outright loss  
8 of these features under project components.

9 There may also be some impact related to activities  
10 to remove sediment just for drainage purposes, but I  
11 understand that they're not going to comply with the  
12 IAAC recommendation or condition to remove all the  
13 sediment following floods, and that's in line with my  
14 recommendation.

15:45

15 But the damage and destruction of the wetlands is  
16 in contravention of the primary and preferred response  
17 outlined here in Point 1 in Alberta's wetland policy.

18 Next slide, please.

19 In reply at Exhibit 325, PDF 53, it states that:

20 (as read)

15:45

21 "SR1's operations allows much of the  
22 hydrologic processes that drive stream  
23 and riparian function to occur."

24 And in reply, Exhibit 325, PDF 53, it notes that:

25 (as read)



## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1            "The 160 cubic metres per second flow  
2            rate is roughly equivalent to a 1 in  
3            7-year flood that will inundate the  
4            riparian areas of the floodplain while  
5            not inundating the upper terraces where  
6            development is present."

7            In this case, the proponent may be taking a narrower  
8            view of riparian habitats than the broader view of the  
9            valley bottom habitats influenced or created over time  
10           by a stream.

15:46

11           My comments pertain to that broader view in line  
12           with the Alberta Water Council definition of riparian  
13           lands, and agreed to by Mr. De Carlo yesterday.

14           Next slide, please.

15           This is a sample cross-section view of the Elbow  
16           showing differences in flood and -- and 760 cubic metres  
17           --

18           THE COURT REPORTER:            Excuse me. Mr. Wallis --

19           A.    MR. WALLIS:                    Yes.

20           THE COURT REPORTER:            -- you cut out there. You said  
21           "this is a cross-sample showing differences in flood --

15:47

22           A.    MR. WALLIS:                    I'll repeat.

23           This is a sample cross-section of the Elbow  
24           showing differences in flood inundation at 160 cubic  
25           metres per second and 760 cubic metres per second flows

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 from Stantec's Exhibit 138, PDF page 84.

2 Note the extensive area that is inundated by a  
3 large magnitude flood -- still not as big as the 2013,  
4 which is in pink shading -- compared to the much  
5 smaller area inundated in the flow-regulated situation  
6 with the project operational, the light blue-green  
7 shading.

8 This impact is not neutral in direction as  
9 indicated by Stantec, not for hydrology and certainly  
10 not for biodiversity and ecological processes of the  
11 riparian environment.

15:48

12 Next slide, please.

13 This table just shows some of the impacts  
14 described by Bradley, et al. in their 1991 paper,  
15 reduce flooding, and then the effects of that: The  
16 reduced downstream flows, reduced meandering, and  
17 sediment depletion, all important for ecological  
18 function.

19 Next slide, please.

20 I have an extensive section in my report and  
21 appendices that clearly shows the importance of  
22 riparian habitats, the importance of high and  
23 low-magnitude floods, as well as the impact of flow  
24 modification on these productive areas.

15:48

25 In Exhibits 93 and 94, various statements are

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 misleading with respect to the impact on riparian  
2 ecology, particularly the reference to there being  
3 little impact on median flows, which then implied  
4 ecosystem function is maintained.

5 While important to riparian habitat maintenance,  
6 median flows are not a major ecosystem shapers for  
7 downstream riparian habitats. It seems that the focus  
8 of many of Alberta Transportation's statements is  
9 perhaps from a hydrologist's perspective and is on the  
10 channels and banks and not on the broader riparian  
11 environment influence and created by a stream over long  
12 periods of time.

13 Rood and Bradley note for the Bow River downstream  
14 of Calgary the impacts of dams on riparian systems  
15 extend downstream as far as the river flow is altered,  
16 distance of tens or hundreds of kilometres. Every  
17 system is different and responds uniquely to  
18 alterations caused by that flow regulation, but the  
19 causes of change are similar: Peak flow reduction and  
20 reduction in sediment.

21 The other major lesson is that effects take time  
22 to develop and show up in the ecosystem. The lack of  
23 meaningful analysis on the downstream riparian habitats  
24 is an omission from the assessment.

25 Next slide, please.

15:49

15:50

## SCLG TOPIC #5 PANEL

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1 Q. Mr. Wallis, just not to distract you from what you are  
2 saying, just to warn you that we've got about ten more  
3 minutes left.

4 A. MR. WALLIS: Yes. So at least Stantec  
5 acknowledges some of the ecologically important  
6 processes and values of high-magnitude floods, but they  
7 do note, and it's important to remember this when I'm  
8 going my response to cross, that the geomorphology of  
9 the Elbow will be simplified because the creation of  
10 new side channels or activation of abandoned channels  
11 will be reduced. Discharge was not chosen to maintain  
12 river processes and does not represent an ecological  
13 threshold. And lastly, changes to ecological function  
14 associated with limiting flows cannot be mitigated.

15:51

15 Next slide, please.

16 So Stantec in Exhibit 138, PDF 475 further muddies  
17 the waters with its characterization of the effects on  
18 cottonwood recruitment by stating only part of the  
19 cottonwood story.

20 So they only look at the smaller floods as being  
21 the main source of recruitment. Bradley et al tell the  
22 bigger story and note the importance of two forms of  
23 recruitment, which are general replenishment across  
24 much of the floodplain attributed to very large  
25 infrequent floods and also fringe replenishment along

15:51

## SCLG TOPIC #5 PANEL

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1 existing channels attributed to smaller and more  
2 frequent floods. The SR1 project is planned to operate  
3 in a way that eliminates most of both types of  
4 recruitment and habitat regeneration that occurs with  
5 floods.

6 Next slide, please.

7 So we know that there's additional storage being  
8 looked at from Mr. Frigo's testimony, and the end  
9 result is the downstream effects of SR1 on riparian  
10 lands are not dealt with directly or cumulatively when  
11 we're talking below the Glenmore Dam.

15:52

12 Exhibit 324, PDF page 46 notes: (as read)

13 "Some flood risk reduction for  
14 communities along the Bow River and  
15 South Saskatchewan downstream of the  
16 Elbow River confluence by removing up to  
17 600 cubic metres per second from flood  
18 peaks generated from the Elbow  
19 communities receiving this  
20 benefit -- sorry -- communities  
21 receiving this benefit include the  
22 Siksika Nation and even as far as the  
23 City of Medicine Hat."

15:53

24 Next slide, please.

25 The capture of all flood events over 160 cubic

## SCLG TOPIC #5 PANEL

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1 metres per second on downstream habitats and the lack of  
2 attention to it and the ecological functions of flood  
3 events is a significant omission.

4 With respect to upland habitats and wetlands,  
5 cumulative effects are not being addressed adequately  
6 due to the lack of consideration to the degree to which  
7 Foothills parkland natural subregion habitats has  
8 already been heavily modified, as noted by Mr. De Carlo  
9 at Exhibit 394, transcript PDF page 243.

10 Every incremental loss of native habitat is a  
11 significant loss for the natural subregion, and we  
12 seldom lose ecosystems in the loss of habitats in one  
13 major project. It is the "death by a thousand cuts,"  
14 which gets us past ecological thresholds.

15 Next slide, please. So Stantec notes construction  
16 of the project would result in significant effect on  
17 soil quality or quantity resulting in a reduction of  
18 agricultural land capability. And we've already gone  
19 over that. Next slide, please.

20 So there's a number of conclusions. Mitigation  
21 will not eliminate all the effects. Some of the adverse  
22 effects contravene the spirit and intent of the wetland  
23 policy, and guidance on intact grasslands in the SSRP.

24 There will be significant adverse effects on  
25 biodiversity during construction and operation inside

15:54

15:54

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 and outside of flood events. And impacts on native  
2 habitats and landscapes of environmental significance  
3 and downstream riparian habitats. Due to the capture of  
4 the most significant flood events.

5 The degradation of upland and wetland habitats from  
6 sedimentation during flood events and the destruction of  
7 habitats in various permanent components of the project,  
8 and those all weigh against project approval from a  
9 biodiversity perspective.

10 Last slide, please.

15:55

11 Given the impacts on intact native grassland,  
12 wetlands and streams and landscapes of environmental  
13 significance, I recommend that the project not be  
14 approved in its current configuration. My professional  
15 recommendation also is that the project not be approved  
16 in its current configuration as it will impact  
17 downstream riparian habitats with its current operating  
18 mode.

19 If the project is approved, consideration should be  
20 given for allowing larger events to pass.

15:56

21 That concludes my opening statement. I have one  
22 more thing, yes.

23 Q. Sorry, Mr. Wallis, I thought you were going to  
24 conclude.

25 A. MR. WALLIS: Yeah, no. Usually you introduce,

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           so I was just waiting.

2           Q.   That's fine. You can continue with your comments on  
3           cross --

4           A.   MR. WALLIS:            Sure.

5           Q.   -- and cross responses. And just to remind you that  
6           we're nearing the time, so --

7           A.   MR. WALLIS:            Yes.

8                        So I'm going to focus on downstream impacts  
9           discussion in cross that Mr. De Carlo and Mr. Brescia  
10          discussed, and the revised sediment modelling that  
11          Mr. Whitson examined on.

15:57

12                       Mr. Hebert states in his opening statements that  
13          the approach comprehensively assesses impacts,  
14          considers and confirms mitigation. I respectfully  
15          disagree.

16                       The terms of reference, Exhibit 1, PDF page 4  
17          outline the scope, the project description. PDF page 5  
18          in Point F notes that:

19                        "The proponent should discuss cumulative  
20                        environmental impacts in the region."

15:57

21          The vegetation section, Exhibit 1, PDF 16, notes that:

22                        "The proponent should consider potential  
23                        loss of riparian habitats."

24          And in Point D:

25                        "Implications of vegetation changes for



## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 other environmental resources."

2 The wildlife section at PDF page 17 in Point C notes:

3 "It should consider habitat change, for

4 example, riparian, and the impact to

5 local and regional ecosystems."

6 This is no small matter, and the lack of a fulsome  
7 appraisal of the downstream impacts and potential  
8 mitigation is, quite frankly, disturbing, because we  
9 have great expertise on this subject in Alberta.

10 Mr. Brescia at Exhibit 395, transcript PDF 247  
11 noted that the RAA complied with the federal government  
12 guidance, but they still didn't look at any effects  
13 downstream of the Glenmore Reservoir, and they used a  
14 15-kilometre arbitrary buffer, and that's not consistent  
15 with the terms of reference for this project or guidance  
16 from Canada. Especially when you consider the  
17 downstream effects could be felt for dozens, if not  
18 hundreds, of kilometres.

19 And it's August the 10th, 2016, guidance for SR1.  
20 CEAA stated -- it's in the documentation but not an  
21 exhibit: (as read)

22 "In scoping the potential changes to the  
23 environment that may occur, proponents  
24 should consider water quality and  
25 quantity and spatial extent of potential

15:58

15:59

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 environmental effects."

2 So you've got to take into account the appropriate  
3 spatial extent of potential environmental effects. I  
4 don't think that was done for the riparian downstream  
5 habitats.

6 And I have a specific section, 6.1.8, which is  
7 riparian wetland and terrestrial, where they talk  
8 specifically again about water, quantity that are  
9 impacting ecosystems, so if there's any impacts through  
10 that method.

15:59

11 So I note that the project approach in Exhibit 21,  
12 PDF page 23 say that the regional assessment area is  
13 defined for each valued component. Depending on  
14 physical and biological conditions.

15 And the Canada's assessing cumulative effects  
16 guidelines in 2012 said that the spatial boundaries for  
17 cumulative effects assessment should be based primarily  
18 on the valued components' geographic range and the zone  
19 of influence of the project for that valued component.

20 It is my position that AT failed to follow the  
21 federal guidance and terms of reference in adequately  
22 defining the boundaries.

16:00

23 I was pleased to see that Mr. De Carlo agreed with  
24 the Alberta Water Council riparian definition at  
25 transcript Exhibit 395, PDF page 219.

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1           The desired outcomes for riparian lands in the  
2           Bow Basin management plan are stated on PDF 101 of  
3           Exhibit 271 in the appendices of my report. Two of  
4           these are: (as read)

5           "Existing riparian land, including  
6           associated upland areas, are kept intact  
7           or restored. Ecological function  
8           appreciated and valued. And core  
9           ecological functions of healthy riparian  
10          lands are maintained."

16:01

11          I don't think that is the case given the proposed  
12          operation of SR1 and represents a major gap.

13          In my opinion, most of the hydrological processes  
14          needed for fully functioning riparian ecosystems will be  
15          adversely impacted with related effects on vegetation  
16          and associated wildlife.

17          So two of our best researchers, Dr. Stewart Rood  
18          and John Mahoney, who works for Alberta Environmental  
19          Protection, have looked at the Bow River, and they were  
20          part of a team that looked after the 2013 floods, and  
21          they went through the science of river conservation, and  
22          a group of experts did a thorough analysis for rivers in  
23          southern Alberta. And their conclusion was that  
24          85 percent of the natural flow should be retained in the  
25          river to sustain the natural river and ecosystem. SR1

16:02

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 further taxes an already stressed riparian system and  
2 works against the ecological requirements for riparian  
3 habitats as well as the desired outcomes for riparian  
4 lands described in the Bow Basin management plan. This  
5 emphasizes the need for better consideration of the  
6 effects and cumulative effects and potential mitigation  
7 over a much larger area than the RAA used in the SR1  
8 process.

9 And I can conclude now if you like. I won't go  
10 into the sediment modelling. I think we heard  
11 sufficient from Dr. Whitson, but I'm prepared to answer  
12 questions now.

13 Q. Thank you, Mr. Wallis. Next to Dr. Klepacki. I  
14 understand you just have few statement to make. So if  
15 you can proceed.

16 A. MR. KLEPACKI: Yes. Thank you very much. In the  
17 interest of time, Mr. Chair --

18 THE CHAIR: Excuse me, Ms. Okoye, this may  
19 have been done, but it's been a long day, a long week,  
20 but has he been re-affirmed as still being under oath  
21 already?

22 MS. OKOYE: Yes, he --

23 THE CHAIR: Okay. Sorry.

24 MS. OKOYE: He has already been done. But  
25 when he's done, we can mark Mr. Wallis's presentation

16:03

16:03

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 as an exhibit.

2 THE CHAIR: And that as well. Thank you.

3 Sorry.

4 A. MR. KLEPACKI: Yes, Mr. Chair, this is my last  
5 presentation, and that's no April Fool's joke.

6 Thank you very much, Mr. Chair, and Panel members.

7 In the presentation I was going to present but  
8 will forego, which is in Exhibit 263, PDF 10, I tried  
9 to show how the Stantec sampling of large mammals  
10 didn't match the anecdotal sightings of area residents  
11 and so compiled and mapped sightings by the residents  
12 as supported by photographs.

13 The result of this shows the reservoir footprint  
14 is regularly visited by the Jumping Pound elk herd,  
15 cougars, and sometimes by grizzlies and their cubs.  
16 Many of us that reside in the Bragg Creek,  
17 Redwood Meadows, and Springbank area have an emotional  
18 attachment to these animal neighbours, and I'd like to  
19 say something about this now.

20 How do we measure the value of these members of  
21 the Jumping Pound elk herd and the predators they  
22 support?

23 It seems the issues of value and costs are  
24 pervasive in this project. What is the net present  
25 value for the folks who have resided on this land for

16:04

16:04

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 four, five, and six generations or, in the case of our  
2 Stoney Nakoda neighbours, for time immemorial. Their  
3 loss is their intimate relationship with the river and  
4 these landscapes and the ability of their grandchildren  
5 to have these same relationships.

6 Part of the problem is that we have different  
7 currencies. When we had our acreage in West  
8 Bragg Creek, we had the magical experience of waking up  
9 one foggy August morning to find 88 members of the  
10 Jumping Pound elk herd enjoying our yard. It was a  
11 moment of expansive connection. 16:05

12 This feeling of intimacy with our landscape and  
13 its loss is not quantified and summed into the  
14 undiscounted \$27.5 million per year. That includes  
15 preserving the fine homes and controlled river along  
16 Elbow Drive and Sifton Boulevard. It's not just the  
17 loss of landscape and the uncertainty of what happens  
18 to our wildlife neighbours that moves us to oppose this  
19 project. We also oppose the inequity of protection,  
20 quote unquote, for upstream residents versus those  
21 downstream of Glenmore. 16:06

22 Bragg Creek berm elevations are below the 23 flood  
23 level according to the AMEC designs of 2017. We still  
24 don't know what, if any, additional flood measures are  
25 planned for Redwood Meadows. And Springbank residents

## SCLG TOPIC #5 PANEL

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1 downstream from SR1 will always have to worry about  
2 river flood levels above 450 or 600 cubic metres per  
3 second, according to the whim of Alberta Environment  
4 and Parks and City of Calgary operations.

5 I am sure Allan Markin and Ken Needs were not  
6 thinking inequity when they identified the Springbank  
7 site in their helicopter ride up the Elbow River in  
8 late 2013, and that is a large reason why we are  
9 attending this hearing.

10 And then there's drought. While we hear the City  
11 of Calgary has plans to mediate drought with water from  
12 the Bow River, what happens to us who drink the waters  
13 of the Elbow and live upstream of the City's pipeline  
14 network?

16:07

15 Again, it's not just the human residents of the  
16 Elbow watershed I am concerned about. One of the  
17 reasons I supported MC1 was the likelihood of drought  
18 mediation issues and the possibility of a cold water  
19 bottom release dam with fish migration infrastructure  
20 to ensure cold clear water for the inhabitants of the  
21 Elbow River, including our animal neighbours, that  
22 depend upon these waters and fish.

16:07

23 I will mourn the loss of the cold water ecosystem  
24 downstream from SR1 when it is washed with warm water  
25 at two or three times summer flows every ten years or

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 so.

2 I appeal to the Board to calculate their decision  
3 in these currencies as well as dollars, currencies that  
4 include our grandchildren's opportunities to have an  
5 Elbow River with the beauty and ecological integrity  
6 that drew 2 million visitors to its upper watershed  
7 last year.

8 It is painful to witness river segments  
9 irreparably humanized like the now riprap culvert-like  
10 segments at Bragg Creek.

16:08

11 Currencies that are founded and open discussion,  
12 which we haven't seen much of in this project, I feel  
13 constantly reminded of this shortfall, such as the  
14 TSEMA (phonetic) paper mentioned yesterday. This turns  
15 out to be an AEP and City of Calgary-funded report on a  
16 brand-new and incompletely calibrated computer model,  
17 as the caveat in its conclusion state, and it has not  
18 received the scrutiny of peer review necessary for  
19 reliable science.

20 In conclusion, in bringing this back to our  
21 wildlife neighbours, last night I heard what I thought  
22 was an excellent talk on CBC ideas by environmentalist  
23 Graham Saul. He was searching for the common thread  
24 that lies in the hearts of people like myself,  
25 Mary Robinson, Brian Copithorne, Barbara Teghtmeyer,

16:09



## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 Karen Massey, and maybe Mr. Wagner would sign on to  
2 this cadre.

3 Graham Saul concluded in his CBC lecture that we  
4 all share a sense that we are destroying our ecological  
5 life support systems.

6 I don't know if my neighbours subscribe to the  
7 environmentalist label, but you have heard their  
8 passionate stance for the river, this landscape, and  
9 these animal inhabitants.

10 After 30 years of close relationship with the  
11 Elbow River and several years of these studies, and  
12 recognizing Mr. Wallis and other experts' view that no  
13 dams are best, my belief is that projects are  
14 inevitable. MC1 is the least environmentally  
15 destructive means to this end.

16:10

16 In this hearing, I think we all ask you to  
17 consider the long-term health of the river and its  
18 ability to maintain both beauty and services to all  
19 residents of the watershed, both human and nonhuman.

20 Please look beyond the focus of maintaining  
21 waterfront and floodplain properties for the  
22 Elbow River residents south of the Glenmore Dam and  
23 include -- sorry, downstream of the Glenmore Dam, and  
24 include these less tangible costs to all of us upstream  
25 residents.

16:10

## SCLG TOPIC #5 PANEL

Examined by Ms. Okoye

1 I thank you, Mr. Chair, and Board members for this  
2 opportunity to appeal to emotion and not the usual  
3 equations and charts.

4 And along this same line, I wish you all, in these  
5 hearings, a peaceful and restful holiday weekend.

6 Thank you very much.

7 MS. OKOYE: Thank you, Dr. Klepacki.

8 Mr. Chair, that concludes the evidence of the SCLG  
9 Panel for Topic 5 and they are available for cross.

10 THE CHAIR: Thank you, Ms. Okoye and panel  
11 members.

12 MS. OKOYE: I'm sorry, Mr. Chair. I think I  
13 forgot to have Mr. Wallis's presentation entered as an  
14 exhibit.

15 THE CHAIR: Yes, we're going to do that.  
16 Absolutely.

17 And that would be 402. Is that right, Ms. Friend?

18 MS. FRIEND: Yes, that's correct.

19 THE CHAIR: Thank you.

20 MS. OKOYE: Thank you.

21 **EXHIBIT 402 - SCLG CLIFF WALLIS**

22 **POWERPOINT**

23 THE CHAIR: Ms. Louden?

24 MS. LOUDEN: Yes, Mr. Chair. We do not have  
25 any questions.

16:11

16:11

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Barbero

- 1 THE CHAIR: Thank you. Mr. Williams?
- 2 MR. WILLIAMS: I have no questions.
- 3 THE CHAIR: Mr. Wagner?
- 4 MR. WAGNER: No questions.
- 5 THE CHAIR: Ms. Senek?
- 6 MR. MERCER: No questions on behalf of the City  
7 of Calgary. Thank you for the opportunity, Chair.
- 8 THE CHAIR: Thank you, Mr. Mercer.  
9 Mr. Cusano?
- 10 MR. CUSANO: No thank you, sir. 16:12
- 11 THE CHAIR: Mr. Barbero?
- 12 MR. BARBERO: Mr. Chair, Alberta Transportation  
13 does has some questions for this panel, sir.
- 14 THE CHAIR: Thank you. Please proceed.
- 15 MR. BARBERO: Mr. Chair, as a preliminary  
16 matter, I'll be asking some questions of Dr. Zelt and  
17 Dr. Klepacki. Mr. Kruhlak will be asking a few  
18 questions of Mr. Wallis.
- 19 **MR. BARBERO CROSS-EXAMINES THE PANEL:**
- 20 Q. Dr. Zelt, sir, are you there? 16:12
- 21 A. MR. ZELT: Yes, I'm here.
- 22 Q. Sir, you probably don't remember this, but we've been  
23 to a couple of these together, sir. I'm usually  
24 sitting beside Mr. Fitch or Mr. Kruhlak. This is the  
25 first time I've had an opportunity to question you,

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Barbero

1 sir, so I'm looking forward to it.

2 I think the most recent one we were at, sir, was  
3 Bashaw Oil, an AER proceeding up in Drayton Valley. It  
4 might jog your memory.

5 Sir, I just wanted to ask you quickly and, in  
6 light of the time, a few questions about what I heard  
7 today, and I want to start by just confirming a few  
8 things.

9 You would agree, sir, that Alberta Transportation  
10 used an acceptable regulatory model in relation to the  
11 modelling that was done for fugitive dust and air  
12 emissions; correct?

16:13

13 **A. MR. ZELT: Correct. Correct.**

14 **Q.** And like you, sir, Alberta Transportation did conclude  
15 that there was potential for fugitive dust; correct?

16 **A. MR. ZELT: Alberta Transportation did**  
17 **determine that there was a level of dust. In my mind,**  
18 **it was biased very low.**

19 **Q.** Right. And that's fine, sir. But we can also agree  
20 that both your report and Alberta Transportation  
21 concluded that there would be need for mitigation;  
22 correct?

16:14

23 **A. MR. ZELT: Correct. There is -- there is**  
24 **need for immediate and ongoing mediation.**

25 **Q.** Very good, sir. Now, I want to ask you quickly a

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Barbero

1 question about your report. So if we could -- well,  
2 sir, in the interest of time I don't know that we need  
3 to bring it up but you tell me if we do.

4 Your report, which is Exhibit 267 at page 17, sir,  
5 you state the following: (as read)

6 "This assumption -- "

7 I'm sorry, sir, I think I've given you the  
8 wrong -- wrong quote. One moment. Here we are, sir.

9 So again, 267 page 17, you write, sir, under the  
10 heading "Distribution": (as read)

11 "The size distribution of particles  
12 assumed in Exhibit 67 is based upon  
13 generic particulate emissions."

14 And then, sir, you cite US EPA 1998.

15 Now, sir, I would like to show you another document  
16 and that is Exhibit 67 at page 382, please, zoom host.  
17 And, again, zoom host, that was PDF page 382. And if we  
18 could just focus in on Number 5, please. A little bit  
19 more, please.

20 So, Dr. Zelt, this is the Alberta Transportation  
21 document and I just want to confirm Alberta  
22 Transportation actually used US EPA Section 13.2.5. Do  
23 you see that, sir?

24 Sir, I don't know if you are trying to speak. I  
25 don't hear you.

16:15

16:16

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Barbero

1       A.   MR. ZELT:                    Yes, I do.  Sorry, I was  
2       trying -- the mute wasn't working.

3       Q.   Right.  Okay.  Thank you, sir.

4                So is there an error in your report, sir?

5       A.   MR. ZELT:                    The various US EPA documents are  
6       quite similar.  The document that you're referring to  
7       there, 2006, was an update of some of the particulate  
8       emissions where they reduced some of the levels down  
9       and used the final value of .05.

10               I can't remember, I'd have to double-check whether  
11       this particular reference for the '98 is actually the  
12       same.  You can -- so I can jump ahead to what I think  
13       you're going to ask, but I'll let you continue.

14       Q.   Thank you, sir.  I looked at the references in your  
15       report, and I think you've only cited the EIA,  
16       Exhibit 66.  I did not see any reference to any of  
17       these supplemental information requests or responses.  
18       Do I have it right, sir, that you didn't review any of  
19       those?

20               And, zoom host, we can take this document down.

21       A.   MR. ZELT:                    No, I did -- I did review the  
22       supplemental information, as I indicated in my  
23       discussion.

24               My review, as I stated, they didn't take many of  
25       the factors into consideration.  And in my view, it was

16:17

16:17

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Barbero

1 tit against tat, and there's no point in going back and  
2 forth over the same type of discussion.

3 So the reference that you brought up of  
4 whatever it is -- yes, it's a 2006 document, but it  
5 doesn't -- it doesn't answer the question of using the  
6 wrong particulate distribution. It doesn't validate  
7 with the actual values, so.

8 Q. Well, sir, let's deal with that right now.

9 The document that I showed you and took you to  
10 Number 5 of was not an SIR, sir.

16:18

11 A. MR. ZELT: Was -- pardon?

12 Q. It was not an SIR. Do you appreciate that, sir?

13 A. MR. ZELT: Correct.

14 Q. Okay. Thank you. So, sir, are you a hydrologist?

15 A. MR. ZELT: No, I'm not a hydrologist.

16 Q. Sir, you write at your report, PDF page 16: (as read)  
17 "The deposits from the reservoir would  
18 not be expected to be the same as along  
19 a flowing river."

20 Do you recall writing that, sir?

16:19

21 A. MR. ZELT: Yes, I do.

22 Q. Sir, you understand that the flows going into SR1  
23 during operation are coming directly out of the  
24 Elbow River?

25 A. MR. ZELT: Yes. And as I indicated in my

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Barbero

1 report, and in my discussion using the reference of --  
2 I don't have her name right here on hand, the  
3 investigation of the sediment deposits, as determined  
4 in the Glenmore Reservoir, concluded the same thing as  
5 several other references, that the deposition  
6 particulates along the riverbank are not representative  
7 of a quiescent slow deposition that you'd find in a  
8 reservoir and reservoir drawdown.

9 Q. Yes, sir, you cited the Yang paper 2018 which you said  
10 you found on the Internet. That's the one, sir?

16:20

11 A. MR. ZELT: Yes.

12 Q. Thank you. Sir, we were talking briefly about  
13 tackifiers and you indicated you'd made some telephone  
14 calls. I'm wondering if you heard the evidence earlier  
15 today from our vegetation expert Mr. Nick De Carlo  
16 regarding the durations for which tackifier has  
17 effectiveness?

18 A. MR. ZELT: I heard that and that seemed to be  
19 in direct contradiction to the reference that AT had  
20 supplied in -- it might have been the original EIA  
21 where they were talking about tackifiers. And when you  
22 look up the details of that tackifier and when I made a  
23 call to a local company and enquired about costs to get  
24 a general idea and to ask about the longevity of  
25 tackifier or particulate suppression, he provided

16:20



## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Barbero

1 basically the same types of delay.

2 So the one to two-month effectiveness down to  
3 80 percent and longer, 60 percent, which you find in  
4 the literature review, seem to be in direct difference  
5 to what you had provided or your testimony that was  
6 provided today, although the testimony that you're  
7 referring to didn't provide any statistical or  
8 other percent. They just indicated three months to a  
9 year and a half.

10 Q. Right. Dr. Zelt, let me ask you this, sir: Where in  
11 your report is any of that evidence about you making  
12 phone calls regarding tackifier?

16:21

13 A. MR. ZELT: It might not have been in the  
14 report.

15 Q. Sir, did you prepare any addendums to your report that  
16 are yet to be filed?

17 A. MR. ZELT: I did not.

18 Q. Thank you, sir. Are you aware at Exhibit 78, PDF  
19 page 654, application rates of tackifier are provided  
20 for, including weights per hectare and weights to be  
21 used in windy conditions? I'm just asking if you're  
22 aware of that, sir?

16:22

23 A. MR. ZELT: If I'm aware of what, sorry? The  
24 rates are to be determined; is that what you're asking?

25 Q. No, sir. I'm asking if you're aware of the content at

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Barbero

1 Exhibit 78, PDF page 654, that provides weights to  
2 hectare for application of tackifier, including weights  
3 to be applied in windy conditions. Are you aware of  
4 those numbers and that cite, sir?

5 **A. MR. ZELT:** I can't remember the details. I  
6 don't have it in front of me. I reviewed some of the  
7 information about different applications of the  
8 tackifier.

9 Q. Thank you, Dr. Zelt. Those are my questions for you.

10 **MR. BARBERO:** Mr. Chair, if I could have one  
11 moment and I'll review my notes and turn to  
12 Dr. Klepacki.

16:23

13 **THE CHAIR:** Yes, please do so.

14 **MR. BARBERO:** Thank you, sir.

15 **A. MR. ZELT:** Thank you.

16 **MR. BARBERO:** Mr. Chair?

17 **THE CHAIR:** Yes.

18 **MR. BARBERO:** My 30 seconds is up, so I'm back,  
19 sir.

20 **THE CHAIR:** Welcome back.

16:23

21 **MR. BARBERO:** I'm all about efficiency today,  
22 sir.

23 Q. Dr. Klepacki, hello, sir.

24 **A. MR. KLEPACKI:** Good afternoon.

25 Q. Sir, I wanted to thank you for those words and for your

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Kruhlak

1 involvement these last few days, sir. I have very much  
2 enjoyed our interactions, and I hope I haven't been too  
3 tough on you, sir. So with that, I would thank you and  
4 we have no questions for Dr. Klepacki.

5 Mr. Chair, Mr. Kruhlak will now have a few  
6 questions for Mr. Wallis.

7 **A. MR. KLEPACKI:** Have a very good weekend. Thank  
8 you very much.

9 **MR. BARBERO:** Thank you, sir.

10 **MR. KRUHLAK:** Thank you, Mr. Chairman.

16:24

11 **MR. KRUHLAK CROSS-EXAMINES THE PANEL:**

12 **Q.** Good afternoon, Mr. Wallis.

13 **A. MR. WALLIS:** Good afternoon, Mr. Kruhlak.

14 **Q.** Nice to see you again.

15 **A. MR. WALLIS:** Good to see you. Looking well.

16 **Q.** Likewise.

17 Sir, it's fair to say you've devoted your career  
18 to planning, protecting natural areas from development  
19 and identifying areas of conservation significance; is  
20 that a fair capsulation?

16:25

21 **A. MR. WALLIS:** Well, it's a large part of my  
22 work. As I've noted in my CV, we've worked for  
23 virtually every industry, every level of government and  
24 real estate developers on development projects, so I  
25 would say I have a pretty diverse background and

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Kruhľak

1           **understanding of things.**

2           Q. I recall one of our last hearings dealt with a wind  
3           project, and I think you had advocated for the movement  
4           of a couple of turbines to avoid some sensitive areas  
5           and take advantage of more disturbed areas, if you  
6           recall that.

7           A. **MR. WALLIS:**               **Yeah. Every project is different**  
8           **and has different -- some are good, some are bad, and**  
9           **some, well they just need a lot more work.**

10          Q. And in looking at your report, and I don't know if I  
11          need to bring it up, but you had mentioned that you  
12          identify high value landscapes in one of your -- one of  
13          your figures. It was actually Figure 6 in your report?

16:25

14          A. **MR. WALLIS:**               **Correct.**

15          Q. And is it fair to say that -- you've identified the  
16          entire sort of area west of Calgary, south of Highway 1  
17          would fit into this type of description.

18          A. **MR. WALLIS:**               **Certainly a big part of it, yes.**  
19          **And for obvious reasons.**

20          Q. So as you're aware, Alberta Transportation is looking  
21          to construct a flood mitigation project on the  
22          Elbow River, and that would require undertaking some  
23          activity within this, as described, sensitive area. Is  
24          that fair?

16:26

25          A. **MR. WALLIS:**               **Yeah, definitely.**

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Kruhľak

1 Q. And if you're seeking to construct an off-stream  
2 structure, such as SR1, one needs some unique  
3 topography to be able to actually be able to divert  
4 water from a river naturally and have it exit that  
5 holding reservoir naturally after a flood situation.  
6 You would be dictated by unique topography is my  
7 question.

8 A. MR. WALLIS: If you were definitely going to  
9 build that project, yes. You can't build it on a  
10 mountaintop.

16:27

11 Q. And you might not be able to move it as easily as one  
12 of those wind turbines that we maybe talked about a  
13 couple of years ago?

14 A. MR. WALLIS: Yeah. And sometimes they prove  
15 difficult to move too.

16 Q. Now, I also note in your -- and you made I think  
17 reference to Alberta Transportation's reply submission  
18 at Exhibit 325. And at PDF 53, Alberta Transportation  
19 actually agreed with you, recognizing that floods are  
20 essential to maintain long-term riparian function.  
21 That was a quote I think they recognized that you cited  
22 and agreed with.

16:28

23 A. MR. WALLIS: Yes. We just have a disagreement  
24 about the extent of that flooding, so yes.

25 Q. And you would agree with me that if you built any sort

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Kruhlak

1 of flood mitigation or reduction facility on a river,  
2 you're going to have some impact on riparian areas?

3 **A. MR. WALLIS: Absolutely.**

4 Q. You know, in the interest of time, Mr. Wallis, I'm just  
5 going to take you to your executive summary. If I  
6 could ask that your report, Exhibit 271, be brought up.  
7 And the executive summary is at PDF 3.

8 And I enjoyed reading your report, and in  
9 particular, I found your executive summary quite  
10 concise at hitting the high points, which I interpret  
11 to be that if -- if the project's approved and the  
12 mitigation is proposed by Alberta, they would help  
13 reduce residual or long-term effects, but they won't  
14 prevent immediate and lasting damage of -- that you've  
15 classified as "environmental significance." Is that a  
16 fair recap of your walk through the various issues?

16:29

17 **A. MR. WALLIS: Yeah, if you include the**  
18 **downstream riparian habitats as those areas of**  
19 **environmental significance, yes.**

20 Q. And if I was to ask you -- you make these findings and  
21 you provide a summary of your professional opinion, and  
22 then you leave the Panel with two recommendations.

16:29

23 MR. KRULAK: And it's right at the bottom of  
24 the page, document manager, the recommendations.

25 Q. And if you could just carry over to the next page. And

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Kruhľak

1 your two recommendations are, firstly: (as read)  
2 "My professional recommendation is that  
3 the project not be approved in its  
4 current configuration and operating mode  
5 which captures all floods above  
6 160 cubic metres per second."

7 And you go on to say: (as read)

8 "If the project is approved,  
9 consideration should be given for  
10 allowing larger flood events to pass."

16:30

11 Mr. Wallis, you're aware that in fact larger floods can  
12 pass the SR1 project as it's proposed, those exceeding  
13 600 metres cubed per second?

14 **A. MR. WALLIS:** Yeah, actually more. But if you  
15 look at the record, only the 2013 flood would have  
16 passed. All of those other flood events in the  
17 historic record would have been attenuated down to the  
18 lower level, which doesn't allow those larger flood  
19 events to pass.

20 So, you know, yeah, we're arguing details, I would  
21 say, about, you know, what is the frequency of larger  
22 flood events you might allow to pass, what's the time  
23 scale that you might do that, because you're not going  
24 to perhaps allow people to be flooded out while there's  
25 a long-term strategy to get people out of floodplains.

16:31

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Kruhlak

1           You know, there's a big discussion to have around this,  
2           and people have already started to have that  
3           discussion, but they haven't settled on anything yet.  
4           And there are mitigation options, but it's looking at  
5           the cumulative effects of everything in the system, all  
6           of the dams on the Bow, proposed projects on the  
7           Highwood, and this one.

8           So in its -- if you approve it in its current  
9           operating mode, you're just adding to the loading in  
10          the system and not fixing the system. We're already  
11          seeing stresses on the Bow. I live close to the Bow,  
12          in fact, I was affected by the 2013 flood. My power  
13          went out. Fortunately that was the only effect because  
14          of how close we were to the river. But the problem is  
15          the cottonwoods are senescing and dying. It was  
16          fortunate the 2013 flood came through. I've been  
17          waiting for it. My professor in university,  
18          Dr. Hamill, said we were going to get one, and that was  
19          back in the late 1960s. So I've been waiting for it,  
20          and finally it happened.

21          But everybody is trying to engineer the rivers and  
22          prevent that from happening. And I think in the long  
23          run, it goes against, like I said, the Bow Basin  
24          management plan and everything we're trying to do with  
25          riparian habitats, which is to prevent any further net

16:32

16:32



## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Kruhľak

1           loss of those habitats. This project adds to that.

2           So it's a complicated thing, and that's why I say  
3           there's consideration that needs to be given for  
4           allowing larger flood events to pass. It's the  
5           question of the how much. So arguing over the  
6           details -- I guess we shouldn't do it here, but it's  
7           this bigger context I wanted to really put in place.  
8           I'm not arguing that some won't pass anyways, but that  
9           might mean some significant damage to the ecosystem in  
10          the meantime while we're waiting for it to happen.

16:33

11        Q. Appreciate that, Mr. Wallis, I know this is an area  
12        you're very passionate about, and there's a cost and  
13        benefit to all of these structures, and you're  
14        reminding us that there's also a benefit associated  
15        with flooding. Is that fair?

16        A. MR. WALLIS:           Correct. And riparian systems.  
17        You know, all of the documentation in my report talks  
18        about those benefits. They themselves help with flood  
19        control. So, you know, at the same time we're  
20        engineering all these structures -- there was a  
21        geomorphologist back in the 1940s in Florida that  
22        talked about all these engineering projects for flood  
23        control, straightening out river channels and that, and  
24        they said all it was doing is guaranteeing lots of work  
25        for decades to come for engineers, and now they're

16:34

## SCLG TOPIC #5 PANEL

Cross-examined by Mr. Kruhlak

1 spending billions of dollars putting those bends back  
2 in the river, restoring the riparian habitats because  
3 they know it's the cheapest way to achieve their  
4 objectives for society.

5 Q. Mr. Wallis, I'm just going to take you to your last  
6 recommendation to the Board and that is: (as read)

7 "If the project is approved, immediate  
8 sediment removal following floods should  
9 not be a condition of the approval."

10 And I think I heard you say that you recognize now that  
11 that is not the plan, to actively remove sediment, and  
12 you would be in agreement with that approach?

16:35

13 A. MR. WALLIS: Yes, I would. Definitely I  
14 thought it was unwarranted coming from the Impact  
15 Assessment Agency of Canada as a condition.

16 Q. Mr. Wallis, you just bear with me for a moment. I'm  
17 just going to check if there's another question.

18 Thank you very much, Mr. Wallis. Those are all my  
19 questions. Keep well.

20 A. MR. WALLIS: You too, and have a great Easter  
21 weekend.

16:35

22 MR. KRULAK: Thank you.

23 THE CHAIR: Does that conclude the  
24 Alberta Transportation cross-examination?

25 MR. KRULAK: It does, sir. Thank you.

## SCLG TOPIC #5 PANEL

Questioned by Mr. Heaney

1 THE CHAIR: Thank you very much.  
2 So we'll move to Board staff and Panel questions.  
3 Ms. Vance.

4 MS. VANCE: Thank you. I have no questions.  
5 Thank you.

6 THE CHAIR: Mr. Kennedy?

7 MR. KENNEDY: And I have no questions. Thank  
8 you.

9 THE CHAIR: Mr. Ceroici?

10 MR. CEROICI: I don't have any questions. Thank  
11 you, Mr. Chair.

12 THE CHAIR: Dr. Heaney?

13 **MR. HEANEY QUESTIONS THE PANEL:**

14 Q. Just one question about permanent wetland lost, and we  
15 don't have to get into the numbers. It's for  
16 Mr. Wallis. And, you know, what I would like is a bit  
17 of a sense, are there opportunities to offset those  
18 wetlands in the region?

19 A. MR. WALLIS: Well, there's the promise of the  
20 opportunity. My experience is that -- and, in fact,  
21 some monies have been spent taking perfectly good  
22 functioning saline wetlands and converting them into  
23 duck ponds using the compensation money under the  
24 Alberta wetland policy.

25 So in some cases I think they've been able to do

16:36

16:37

## SCLG TOPIC #5 PANEL

Questioned by Ms. Vance

1           some good work, but I think not all of that  
2           compensation money is replacing like with like and, in  
3           fact, is damaging some pretty significant habitats in  
4           the process.

5       MR. HEANEY:                    Okay. Thank you very much.

6       THE CHAIR:                    Ms. Roberts?

7       MR. HEANEY:                    I have no more questions for you.

8       THE CHAIR:                    Sorry, Dr. Heaney, that was your  
9           question?

10      MR. HEANEY:                    Yeah.

16:37

11      THE CHAIR:                    Ms. Roberts?

12      MS. ROBERTS:                  Yeah, I believe that Mr. Kruhlak  
13           kind of probably had discussion with Mr. Wallis on  
14           where I was going to go.

15      MS. VANCE QUESTIONS THE PANEL:

16      Q.    So I'll just put out there what my question was,  
17           Mr. Wallis, and if you believe that you've already  
18           answered it to Mr. Kruhlak, that's just fine.

19           What I was wondering is your opinion on how  
20           society balances ecological benefits from floods with  
21           the adverse impacts that they cause to humans. Is  
22           there anything -- any wisdom you can impart?

16:38

23      A.   MR. WALLIS:              Well, there's actually a very good  
24           report by Alberta WaterSMART in 2016 which made  
25           recommendations related to climate vulnerability and

## SCLG TOPIC #5 PANEL

Questioned by Ms. Vance

1 sustainable water management, and of course they  
2 said -- one of the things was to pursue more extensive  
3 relocation and buyouts in the Bow River and Elbow River  
4 floodplains to reduce risk. And they note the benefits  
5 of that is that it's the most effective and the only  
6 permanent solution. We still encourage people to live  
7 in risk areas, because there's always a bigger, badder  
8 flood that comes through, and so it's a time thing.

9 We've developed in these areas over the last  
10 century. We're not going to fix our problems right  
11 away, but I think we have to have this bigger overall  
12 strategy, so that's what I'm talking about. Maybe we  
13 have some flood control projects in the interim, but  
14 that shouldn't encourage people to stay where they are  
15 or to develop more in there or to develop more  
16 extensive infrastructure in those areas.

17 The process of the City of Calgary, these teams of  
18 scientists is to try and figure out ways of over the  
19 long term moving people out of those risk areas and  
20 protecting some of the highest-value assets. So it's a  
21 very complicated thing, and I appreciate that. My job  
22 is, from a biodiversity point of view, to make sure  
23 people are aware of the risks there and the values of  
24 those riparian areas. But, yeah, you know, I don't  
25 envy the politicians on this matter, but I sense that

16:39

16:39

## S. WAGNER TOPIC #5

Submissions by Mr. Wagner

1 we should be learning from other jurisdictions who have  
2 gone more to natural models and getting people out of  
3 those higher-risk areas rather than spending billions  
4 of dollars building.

5 And I worked in China, and I know now the rivers  
6 in some places are above the river -- bottom of the  
7 rivers are above the surrounding landscape, and when  
8 they have big floods and those dykes get breached, it's  
9 a huge catastrophe.

10 So, you know, we can continue down this same road,  
11 building infrastructure and not doing the bigger work,  
12 but I think if we don't do the two together, we're  
13 going to be facing bigger problems in the future.

16:40

14 MS. ROBERTS: Thank you. Appreciate that.

15 That's all, Mr. Chairman.

16 THE CHAIR: Thank you, Ms. Roberts.

17 And thank you, Mr. Wallis, Mr. Zelt, Mr. Klepacki.  
18 And send our best regards to Mr. Osko. But thank you,  
19 panel, for your presentations and your answers under  
20 cross-examination today. And, Ms. Okoye and  
21 Mr. Secord, we'd like to pass along our thanks to all  
22 of your panel members over the course of the last two  
23 weeks in terms of their presentations and participation  
24 in these -- in the evidentiary portion of the hearing.  
25 So thank you very much.

16:41

**S. WAGNER TOPIC #5****Submissions by Mr. Wagner**

1 MR. SECORD: Thank you.

2 MS. OKOYE: Thank you, Mr. Chair.

3 THE CHAIR: So move on to -- and I don't  
4 recall -- well, I do recall. I don't think they had  
5 requested time, but I just wanted to check again with  
6 Mr. Williams.

7 MR. SECORD: Just one item, sir. I have no  
8 redirect.

9 THE CHAIR: Oh. Look at that, I just --

10 MR. SECORD: Just in case you were wondering. 16:42

11 THE CHAIR: I just moved my sticky too. Look  
12 at that. I should have moved it so darn quick.

13 MR. SECORD: Okay.

14 THE CHAIR: I had to make it, so I checked on  
15 the redirect. Sorry, Mr. Secord.

16 Mr. Williams, Calalta, did you have any direct on  
17 Topic Area 5?

18 MR. WILLIAMS: No, I have no direct.

19 THE CHAIR: Thank you, Mr. Williams.

20 And, Mr. Wagner? 16:42

21 MR. WAGNER: I do.

22

23 **S. WAGNER (Spokesperson), previously sworn**

24 **A. And if I could get Document Number 371 brought up**  
25 **please.**

## S. WAGNER TOPIC #5

Submissions by Mr. Wagner

1 I apologize. There is a howling wind out here  
2 today, and there may be whistling in the background.

3 THE CHAIR: Loud and clear, Mr. Wagner.

4 A. It just comes and goes. I just wanted to indulge the  
5 Panel for a second, and that is, I talked about grass  
6 fires. Right now, there is a grass fire west of  
7 Cochrane, and that -- and in the last week, there was a  
8 serious grass fire that I'm sure everybody noted in  
9 southern Alberta. Both were, my understanding, created  
10 by man.

16:43

11 Can I go to Slide Number 20, please.

12 So I brought this slide up earlier in the day, but  
13 as you will note in my submission, I believe the most  
14 significant threat to wildlife is not necessarily from  
15 construction nor dam flooding but from unfettered  
16 hunting. Hunting will have an effect on the elk herds.  
17 And by the GOA's own acknowledgement this morning, that  
18 will also affect the grizzly bear population, which is  
19 an endangered species.

20 The first picture that I'm showing here is of the  
21 GoA basically downplaying the importance of wildlife in  
22 a public forum and specifically targeting the elk herds  
23 that we have in the area. And I might note that it's  
24 not just one elk herd as being propagated. There's  
25 actually I believe two or maybe even three elk herds,

16:43



## S. WAGNER TOPIC #5

Submissions by Mr. Wagner

1 and one of those is actually stationed on the east side  
2 of 22, and we haven't seen those elk on this side of  
3 the highway for years.

4 Furthermore, the GoA is communicating that the SR1  
5 would be a park-like setting. I believe that that's a  
6 miscommunication, and I would contend that this is a  
7 totally incompatible park and hunting. So with this  
8 designation, you're going to increase the risk to human  
9 and wildlife to an -- unacceptable levels. I don't  
10 understand it.

16:45

11 To note, parks such as Kananaskis have no hunting.

12 The second picture. I'd like to go to the next.  
13 And Dr. Klepacki talked about elk herds and pictures  
14 and things that he's very interested in. This was  
15 taken last spring in 2020, and you can see the elk  
16 calves running around in the background and playing.  
17 We don't often see the elk herds that open at that time  
18 of year. This was very unique. Usually they hide  
19 their calves at that. It's about 300 metres from our  
20 house.

16:45

21 The elk spend one to two months on our property,  
22 and we've been quite protective of that elk herd and  
23 the calving especially, and this provides them with a  
24 safe location for calving for the two to three months  
25 of that time of year when it's very sensitive.

## S. WAGNER TOPIC #5

Submissions by Mr. Wagner

1           The next slide, please.

2           This is a slide that was taken down our laneway.  
3           It was actually taken by a contractor, because we don't  
4           often see things like this because they move around  
5           quite a bit. This is a grizzly with three cubs. Three  
6           cubs is not very common. It shows the health of the  
7           sow. And at the same time that this picture was taken  
8           I put a map to the right of this. There's two purple  
9           dots. The top purple dot is where that location is  
10          where the -- this sow and three cubs were.

16:46

11          At the same time, down at the bottom there, there  
12          was another purple location, and there was a sow with  
13          two cubs, and they were digging mole hills at the time.  
14          And they were almost the -- well, they were basically  
15          the same time frame, so they were two separate sows in  
16          our area with twins and triplets.

17          The green dot that I have here is the next  
18          picture.

19          And may I get the next slide, please?

20          And I talked about this in my submission. This is  
21          a sow that actually drug an elk, a full grown elk. I  
22          just can't believe the power of this majestic animal  
23          drug it about 100 yards into the bush. And this  
24          picture was taken from about the road, the 22 highway.  
25          And it's feeding its two cubs off of that elk. Not a

16:47

## S. WAGNER TOPIC #5

Submissions by Mr. Wagner

1 normal situation in the spring. A full grown elk, but  
2 it was a roadkill, and mom was feeding her cubs.

3 I would very much like to see the NRCB require the  
4 GoA to have a better methodology to protecting wildlife  
5 within the SR1. I'm not hearing that from the GoA.  
6 Ideally, have the GoA designate this as a no hunting  
7 park. That would be the absolute best, I think, for  
8 human and wildlife in this location.

9 I also believe that it would be incumbent upon the  
10 GoA to increase monitoring of the lands. They said  
11 that they're not going to do much around wildlife. And  
12 for the first five years there's going to be a lot of  
13 public interest in the area, and if we were to get some  
14 extra monitoring in that time frame, it would probably  
15 eliminate a lot of the short-term abuses and allow time  
16 for a better plan to be developed; and hopefully with  
17 that plan, they would engage the community in that  
18 plan.

19 Thank you very much for your time. I am open for  
20 questions.

21 THE CHAIR: Thank you, Mr. Wagner. So.

22 So, Ms. Loudon, do you have any cross-examination?

23 MS. LOUDEN: Thank you, Mr. Chairman. No, we  
24 do not have any questions.

25 THE CHAIR: Mr. Secord?

16:48

16:49

## S. WAGNER TOPIC #5

## Submissions by Mr. Wagner

1 MR. SECORD: No questions, sir. Thank you.

2 THE CHAIR: Mr. Williams?

3 MR. WILLIAMS: No questions.

4 THE CHAIR: Mr. Mercer, City of Calgary?

5 MR. MERCER: No questions from the City of

6 Calgary. Thank you, Chairman.

7 THE CHAIR: And, Mr. Cusano?

8 MR. CUSANO: No thank you, sir.

9 THE CHAIR: Mr. Kruhlak, Mr. Barbero?

10 MR. KRUHLAK: Mr. Chairman, it's Ron Kruhlak. 16:49

11 No, we don't have any questions.

12 Thank you very much, Mr. Wagner.

13 MR. WAGNER: Thank you, Mr. Kruhlak.

14 MR. FITCH: Mr. Chair, it's Gavin Fitch. I  
15 just wanted to raise the marking of some additional  
16 exhibits, namely some responses to undertakings. So  
17 within the past hour or two we have sent three batches  
18 of undertakings to the Board and the participants. The  
19 first is a response to Undertaking 42. And I'm  
20 wondering if we can get that response marked as the  
21 next exhibit, please? 16:50

22 THE CHAIR: Right is that now specifically  
23 with Mr. Wagner's? I was just wondering if we could  
24 finish with Mr. Wagner before we take those on, or is  
25 there --

## S. WAGNER TOPIC #5

## Submissions by Mr. Wagner

1 MR. FITCH: Oh, sorry. I forgot that you may  
2 have questions of Mr. Wagner. My apologies.

3 THE CHAIR: Yeah, I just thought we would just  
4 wrap that up, and then --

5 MR. FITCH: Yeah.

6 THE CHAIR: -- yeah, and then we can get to  
7 some of the housekeeping, so -- but we do want to get  
8 to that, Mr. Fitch, so thank you.

9 MR. WAGNER: Everybody is being very kind to  
10 me, Gavin, so probably okay.

16:50

11 THE CHAIR: Yeah, we probably won't be long.  
12 But Alberta Transportation has no questions. So,  
13 Mr. Kennedy, did you have any questions?

14 MR. KENNEDY: I have no questions. Thank you.

15 THE CHAIR: And, Ms. Vance?

16 MS. VANCE: No questions, thank you.

17 THE CHAIR: Mr. Ceroici?

18 MR. CEROICI: I have no questions. Thank you.

19 THE CHAIR: Ms. Roberts?

20 MS. ROBERTS: I have no questions.

16:51

21 THE CHAIR: Dr. Heaney?

22 MR. HEANEY: I have no questions. Thank you,  
23 Mr. Wagner, for sharing some of those shots of the  
24 grizzlies.

25 MR. WAGNER: Yeah, it's -- I have to say,

## S. WAGNER TOPIC #5

## Submissions by Mr. Wagner

1           they're not easy to film without trail cams. They are  
2           very elusive.

3       THE CHAIR:                   I can imagine. And thank you as  
4           well, Mr. Wagner I have no questions, and so therefore,  
5           I would imagine you don't have any redirect.

6       MR. WAGNER:                 I do not have a redirect. Thank  
7           you.

8       THE CHAIR:                   So thank you, Mr. Wagner.  
9           So we do have --

10      MR. WAGNER:                 And -- sorry, Mr. Chair. I'd ask  
11           for a contact for Mr. Secord to just help me through  
12           the summation. I was wondering if -- Mr. Secord, I  
13           think you have a way of getting ahold of me. If you  
14           wouldn't mind doing that.

15      MR. SECORD:                 Yes, so I'm -- I'll send you an  
16           email, and we can get in touch over the weekend, over  
17           the long weekend, okay.

18      MR. WAGNER:                 Sure. Might avoid disaster on my  
19           summation, so...

20      THE CHAIR:                   Well, and, Mr. Wagner, I think  
21           Mr. Barbero was complimenting Mr. Klepacki on his last  
22           direct, which in some respects might have sounded a bit  
23           like a final argument, but that might be something you  
24           want to pay attention to as well if you're preparing  
25           finals.

16:52

16:52

## S. WAGNER TOPIC #5

## Submissions by Mr. Wagner

1 MR. WAGNER: Thank you.

2 THE CHAIR: Just in terms of process and  
3 style. Okay. Thank you. Thank you, Mr. Wagner.  
4 So, Mr. Fitch, yeah, I think we do have some  
5 housekeeping to do on undertakings. Please proceed.

6 MR. FITCH: Thank you, Mr. Chair. So the  
7 first document we'd like to mark as the next exhibit  
8 would be the response of Alberta Transportation to  
9 Undertaking Number 42.

10 MS. FRIEND: So this is Laura, and that would  
11 be Exhibit 403.

16:53

12 **EXHIBIT 403 - AT RESPONSE TO**  
13 **UNDERTAKING 42**

14 MR. FITCH: Thank you. Next there is a  
15 response to a number of undertakings; namely 14, 16,  
16 17, 18, 20, 24, 25, 26, 27, 32, 33, 35, 36, 37, 38, 39,  
17 40, 41, and 43. If we could mark that document as the  
18 next exhibit?

19 THE CHAIR: And, Ms. Friend, did you get those  
20 numbers? I have them, but did you --

16:54

21 MS. FRIEND: Yeah, I'm fine.

22 THE CHAIR: Okay, and that is Exhibit --

23 MS. FRIEND: 404.

24 **EXHIBIT 404 - AT RESPONSE TO**  
25 **UNDERTAKINGS 14, 16, 17, 18, 20, 24,**

## S. WAGNER TOPIC #5

Submissions by Mr. Wagner

1                   25, 26, 27, 32, 33, 35, 36, 37, 38, 39,  
2                   40, 41, AND 43

3       MR. FITCH:                   Thank you. And, finally,  
4           Mr. Chair, the third document we would like to have  
5           marked is Alberta Transportation's response to  
6           Undertaking 45.

7       MS. FRIEND:                 And that exhibit number will be  
8           405.

9                   **EXHIBIT 405 - AT RESPONSE TO**  
10                  **UNDERTAKING 45**

16:54

11       MR. FITCH:                   Thank you, Mr. Chair. Thank you,  
12           Ms. Friend. That is it from me.

13       THE CHAIR:                 Did Alberta Transportation have  
14           rebuttal on the entire Topic Number 5, rebuttal  
15           evidence?

16       MR. FITCH:                   Not to my knowledge, but I'll let  
17           Mr. Kruhlak speak.

18       MR. KRUHLAK:                No, Mr. Chairman, thank you. We  
19           do not have any rebuttal evidence on this topic.

20       THE CHAIR:                   Okay. Then I think we are --

16:54

21       MR. WILLIAMS:                Mr. Chair, can I just ask one  
22           question? It's Bob Williams here.

23       THE CHAIR:                   Yes, Mr. Williams.

24       MR. WILLIAMS:                There was an undertaking for the  
25           insurance question we had, and I don't know if it was



## S. WAGNER TOPIC #5

## Submissions by Mr. Wagner

1 given an undertaking number. Mr. Kruhlak was going to  
2 look into that.

3 THE CHAIR: Just get Mr. Kruhlak here. Do you  
4 recall if that was one of the numbers that was  
5 submitted just under Exhibit 403?

6 MR. KRUHLAK: I couldn't answer that at this  
7 moment. We'd have to check.

8 Mr. Williams, we'll make sure we get that back to  
9 you directly in addition to providing it to the Board,  
10 if it's not already filed.

16:55

11 MR. WILLIAMS: Yeah, we just haven't received  
12 anything yet. So as long as it's done prior to our  
13 final arguments on Tuesday, that would be appreciated.

14 MR. KRUHLAK: You will have it before then,  
15 Mr. Williams.

16 MR. WILLIAMS: Thank you.

17 THE CHAIR: Thank you, Mr. Kruhlak.

18 Thank you, Mr. Williams.

19 Okay. With that, I think we are -- just a couple  
20 of quick housekeeping and closing comments and we'll  
21 have -- I think the Panel and myself will have more of  
22 a closing comment and some thank you next week, but I  
23 would like to quickly report we did have -- we started  
24 the day with a bit of a, you know, a worry and a scare  
25 about a virus. We have had our website folks, Box

16:56

## S. WAGNER TOPIC #5

Submissions by Mr. Wagner

1 Clever and MNP who provide our IT support, go through  
2 our entire website, exhibit list, and have found  
3 nothing. So both MNP and Box Clever did that  
4 simultaneously.

5 We wanted to give some assurance that the exhibits  
6 are fine. We went through today, and none of the  
7 document managers over the last two weeks, including  
8 today, have themselves encountered any viruses either,  
9 so I think we are good to go there.

10 So our apologies for, you know, raising the issue  
11 and having a bit of a scare there, but we don't think  
12 if there were issues with viruses, that it had  
13 originated with our website, and if they have, they're  
14 certainly not there now.

16:56

15 So, as you're preparing, if you need to get to  
16 those exhibits and access, I guess our point is you  
17 should feel free to do so.

18 Ms. Vespa, thank you very much for an extremely  
19 long day. Great job. And enjoy your weekend. And  
20 also please send our thank you to Ms. DiPaolo. And who  
21 will we see next week? Do you know? You're up again.  
22 Okay. All right, well, thank you very much.

16:57

23 And thank you panel. I'd like to thank Ms. Vance  
24 and Mr. Kennedy for all the support that we get from  
25 you two folks. Much appreciated.

1           And thank you to all the legal counsel that are in  
2 support of all the panels that we talked about earlier.  
3 Very much appreciated. You know, the evidentiary  
4 portions, the direct, the cross-examinations were  
5 professionally done, professionally handled and  
6 professionally stick-handled by you folks. The  
7 dialogue was respectful and professional, and it's much  
8 appreciated, so thank you on behalf of the Panel to all  
9 of you folks.

10           So Monday -- or, sorry, Tuesday we'll have a --  
11 over the long weekend some of us will be a little  
12 busier than others, I get that, preparing for Tuesday.  
13 Tuesday sign-in at 7:30 a.m. and a start of 8:00 a.m.  
14 on Tuesday. Then it will be a reasonably long day, but  
15 I think it's doable. And then we'll break overnight  
16 and have Alberta Transportation return for an 8:30  
17 sign-in but 9:00 hearing start on Wednesday, April 7th.

18           So with that, thank you very much. Everyone have  
19 a nice long Easter weekend, a COVID weekend. I get it.  
20 Hopefully you'll find a way to connect with friends and  
21 family in a safe way despite COVID. So all the best,  
22 take care, and we'll see you next week.

---

24 PROCEEDINGS ADJOURNED TO APRIL 6, 2021, AT 8:00 A.M.

1 Certificate of Transcript

2

3 We, the undersigned, hereby certify that the foregoing  
4 pages 2192 to 2483 are a complete and accurate transcript  
5 of the proceedings taken down by us in shorthand and  
6 transcribed from our shorthand notes to the best of our  
7 skill and ability.

8 Dated at the City of Calgary, Province of Alberta, on  
9 April 1, 2021.

10

11

12

"Lorelee Vespa"

13

Lorelee Vespa, CSR(A) RPR CRR

14

Official Court Reporter

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- I N D E X -

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UNDERTAKINGS GIVEN

1

2

3 UNDERTAKING - TO ADVISE IF AT WILL COMMIT TO 2259

4 MITIGATE AIRBORNE DUST WITHIN 24 HOURS OF THE

5 ISSUE OR A COMPLAINT ARISING (**SEE TRANSCRIPT FOR**6 **FURTHER DESCRIPTION**)

7

8 UNDERTAKING - TO ADVISE IF AT WILL COMMIT TO 2260

9 BASELINE MONITORING TO MEASURE INCREASES IN INSECT

10 ACTIVITY AND DEVELOP A MITIGATION PLAN FOR SAME

11

12 UNDERTAKING - TO CONFIRM THAT THE PROJECT OPERATOR 2263

13 OR PROPOSED INDEPENDENT AUTHORITY WILL WORK WITH

14 LOCAL RESIDENTS IN ROCKY VIEW COUNTY TO MONITOR

15 AIR QUALITY WITH LIVE READINGS AT LOCATIONS

16 IDENTIFIED BY THE SPRINGBANK COMMUNITY, INCLUDING

17 BUT NOT LIMITED TO, RANGE ROAD 33 NEAR SPRINGBANK

18 HIGH SCHOOL AND SOCCER PARK; ELBOW VALLEY

19 ELEMENTARY SCHOOL, AND HIGHWAY 8 AREAS (**SEE**20 **TRANSCRIPT FOR FURTHER DESCRIPTION**)

21

22

23

24

25



1       UNDERTAKING - FOR THE PROPONENT TO ADVISE IF IT       2264  
2       WILL CREATE A MECHANISM TO NOTIFY CYCLISTS OF  
3       RESERVOIR OPERATIONS THAT IMPACT SPRINGBANK ROAD  
4       AND AIR QUALITY WARNINGS (**SEE TRANSCRIPT FOR**  
5       **FURTHER DESCRIPTION**)

6  
7       UNDERTAKING - TO ADVISE IF AT WILL AS A CONDITION       2265  
8       OF APPROVAL INCLUDE AN ELK MONITORING AND  
9       MANAGEMENT PLAN THAT ENGAGES LOCAL LANDOWNER -  
10      **REFUSED**

11  
12      UNDERTAKING - TO ADVISE IF AT WILL RETAIN AN       2266  
13      EXPERT ON TOXICOLOGY TO DETERMINE THE IMPACTS OF  
14      THE POST-FLOOD SEDIMENT AND FLOODWATER QUALITY  
15      CONSIDERING THE MORTALITY OF WILDLIFE AND PLANTS  
16      WITHIN THE RESERVOIR AND/OR PROVIDE A WRITTEN  
17      RESPONSE RELATIVE TO THE SHARING OF THOSE RESULTS  
18      (**SEE TRANSCRIPT**)

19  
20      UNDERTAKING - (**SEE TRANSCRIPT**)       2268

21  
22  
23  
24  
25

1	UNDERTAKING - TO PROVIDE AN ANSWER TO THE	2269
2	QUESTION: "HOW THOSE COSTS AND THE BENEFIT COSTS	
3	RELATED TO EXHIBIT 159, TABLE 49, PDF PAGE 231.	
4	IS THIS NOT THE SAME COST, JUST ON AN ANNUALIZED	
5	BASIS	
6		
7	UNDERTAKING - TO ADVISE IF AT/AE WILL CARRY AN	2280
8	INSURANCE POLICY FOR BUSINESS INTERRUPTION LOSS	
9	FOR STAKEHOLDERS CLOSE BY; IF SO, CAN CALAWAY	
10	PARK/CALALTA WATERWORKS BE NAMED IN THAT POLICY	
11		
12	UNDERTAKING - WOULD AT CONSIDER MAKING THE SR1	2288
13	FOOTPRINT A NO HUNTING AREA - <b>REFUSED</b>	
14		
15	UNDERTAKING - REFERRING TO THE SNN UNDERTAKING	2421
16	PROVIDED TO ADVISE WHETHER AT WOULD LIKE TO	
17	CORRECT THEIR EVIDENCE WITH RESPECT TO THE HIGH	
18	LOAD CORRIDOR AND/OR TO RECONCILE THEIR RESPONSES	
19	OF YESTERDAY AND THEIR STATEMENT IN THE OPENING	
20	STATEMENT WITH THE UNDERTAKING THAT HAS BEEN	
21	PROVIDED	
22		
23		
24		
25		

1       UNDERTAKING - TO ADVISE SNN ON WHAT BASIS WAS THE       2421  
2       PORTION OF HIGHWAY 22 BETWEEN HIGHWAY 1 AND  
3       HIGHWAY 8 PROPOSED TO BECOME A HIGH LOAD CORRIDOR

4

5       UNDERTAKING - REFERRING TO THE UNDERTAKING       2422  
6       RESPONSE PROVIDED WITH RESPECT TO THE HIGH LOAD  
7       CORRIDOR, TO ADVISE WHY THE SEGMENT OF HIGHWAY 22  
8       HAS NOT BEEN DESIGNATED THE SAME

9

10      UNDERTAKING - TO ADVISE WHAT WILL TRIGGER THE       2422  
11      SUBJECT PORTION OF HIGHWAY 22 BECOMING DESIGNATED  
12      OR IN SERVICE AS A HIGH LOAD CORRIDOR

13

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